

In The Matter Of:

*PHYLLIS SMALL v.
LORILLARD TOBACCO COMPANY*

*Michael D. Shannon
February 2, 1998*

*WAGA & SPINELLI
4 Becker Farm Road
Roseland, NJ 07068
(973) 992-4111 FAX: (973) 992-0990*

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TOBACCO
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(1) SUPREME COURT OF THE STATE OF NEW YORK
 COUNTY OF NEW YORK
 (2) NO. 96/110849-110953
 (3)
 (4) PHYLLIS SMALL and DENISE FUBINI, :
 individually and on behalf of others :
 (5) similarly situated, :
 (6) Plaintiffs, :
 (7) Vs. :
 (8) LORILLARD TOBACCO COMPANY, INC., :
 LORILLARD, INC., LOEWS CORPORATION,
 (9) COUNCIL FOR TOBACCO RESEARCH-USA, INC., :
 (Successor to Tobacco Industry Research
 (10) Committee), and TOBACCO INSTITUTE, INC., :
 (11) Defendants. :
 (12)
 (13)
 (14) FROSINA, JAMES CHIOMINTO, :
 (15) ELIZABETH COLAVITO and ANILDA ROSS, :
 individually and on behalf of all :
 (16) Others similarly situated, :
 (17) Plaintiffs, :
 (18) Vs. :
 (19) PHILIP MORRIS, INC., :
 PHILIP MORRIS COMPANIES, INC., :
 (20) COUNCIL FOR TOBACCO RESEARCH-USA, INC. :
 (Successor to Tobacco :
 (21) Industry Research Committee), :
 AND TOBACCO INSTITUTE, INC. :
 (22) Defendants. :
 (23)
 (24) Deposition of: MICHAEL DAVID SHANNON
 (25)

(1)
 (2)
 (3) EDWIN PAUL HOSKINS, WALTINA BROWN, :
 DANTE AUBAIN, AND MYRNA OCASIO, :
 (4) individually, and on behalf of :
 All others similarly situated, :
 (5) Plaintiffs, :
 (6) Vs. :
 (7) R.J. REYNOLDS TOBACCO COMPANY
 (8) R.J. REYNOLDS, INC. :
 (Successor to Tobacco Industry
 (9) Research Committee), :
 AND TOBACCO INSTITUTE, INC. :
 (10) Defendants. :
 (11)
 (12)
 (13)
 (14) CATHERINE ZIO, PETER HOBERMAN, :
 (15) And GEORGE ELISSEOUS, individually, :
 and on behalf of all others :
 (16) Similarly situated, :
 (17) Plaintiffs, :
 (18) Vs. :
 (19) THE AMERICAN TOBACCO
 COMPANY, INC., AMERICAN BRANDS, INC., :
 (20) COUNCIL FOR TOBACCO RESEARCH-USA, INC. :
 (Successor to Tobacco Industry :
 (21) Research Committee), :
 AND TOBACCO INSTITUTE, INC. :
 (22) Defendants. :
 (23)
 (24)
 (25)

February 2, 1998

LORILLARD TOBACCO COMPANY

Page 3

Page 4

[1]
[2]
[3] JOSEPHINE STEWART-LOMANITZ, :
[4] SHARLENE HOBERMAN, LOUIS CRUS :
and, AUDREY HULSE, on behalf :
[5] Of the Estate of Lewis Hulse, :
individually and on behalf :
[6] Of others similarly situated, :
[7] Plaintiffs, :
[8] Vs. :
[9] BROWN & WILLIAMSON TOBACCO CORPORATION, :
B.A.T. INDUSTRIES P.L.C., BATUS, INC., BATUS :
[10] HOLDINGS, INC., COUNCIL FOR TOBACCO :
RESEARCH-USA, INC. (Successor to Tobacco :
[11] Industry Research Committee), :
AND TOBACCO INSTITUTE, INC. :
[12] Defendants. :
[13]
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[18] TRANSCRIPT of testimony as taken by
[19] and before ALICIA S. CLEMENT, a Shorthand Report
[20] and Notary Public of the State of North Carolina,
[21] at the Hotel Roanoke, 110 Shammondosh Drive,
[22] Roanoke, Virginia on Monday, February 2, 1998,
[23] commencing at 9:35 in the forenoon.
[24]
[25]

[1] APPEARANCES:
CLIMACO, CLIMACO, LEFKOWITZ & GARPOLI, CO, LPA
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BY: JOHN R. CLIMACO, ESQ.
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the New York matters
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[19] BY: MARILYN FORBES, ESQ.
For the Defendant, RJR Tobacco Company
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4 Becker Farm Road
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STEVE OAKS, VIDEOGRAPHER
[23] (201) 992-4111
[24]
[25]

February 2, 1998

LORILLARD TOBACCO COMPANY

Page 8

Page 10

(1) VIDEOGRAPHER: The time is
(2) 9:35 a.m. The date is February 2nd, 1998. This
(3) is the video deposition of Michael Shannon in the
(4) matter of New York Tobacco Cases 110949 through
(5) Case 953.

(6) This deposition is being held at
(7) Hotel Roanoke in Roanoke, Virginia. My name is
(8) Steve Oaks; I'm the video specialist. And the
(9) court reporter is -

(10) STENOGRAPHER: Alicia Clement.

(11) VIDEOGRAPHER: - Alicia Clement.

(12) And we are from Waga and Spinelli court reporters
(13) with offices located at 4 Becker Farm Road,
(14) Roseland, New Jersey.

(15) Now, if the counsel will identify
(16) themselves for the record, and the court reporter
(17) will swear in the witness, please.

(18) MR. MAISTROS: Jack Maistros for
(19) the plaintiffs in New York.

(20) MR. CLIMACO: John Climaco for the
(21) plaintiffs in New York.

(22) MR. HAKLAR: Thomas Haklar for the
(23) plaintiffs in California.

(24) MS. SALZMAN: Hollis Salzman for
(25) the plaintiffs in New York.

(1) Q: And is it - is it Mr. Shannon or
(2) Dr. Shannon?

(3) A: Mister. No Ph.D.

(4) Q: And your date of birth?

(5) A: 3/16/52.

(6) Q: And your current address?

(7) A: [DELETED]
(8)

(9) Q: [DELETED]
(10)

(11) Q: How long have you resided there?

(12) A: A year and a half.

(13) Q: Any plans to move in the near
(14) future?

(15) A: No.

(16) Q: Are you married?

(17) A: No.

(18) Q: Have you been married?

(19) A: Yes.

(20) Q: Has your wife ever worked at

(21) Reynolds or any other tobacco company?

(22) A: No.

(23) Q: Do you have any children?

(24) A: Yes.

(25) Q: How many children?

Page 9

Page 11

(1) MS. KNISELY: Sherrice Knisely for
(2) the plaintiffs in California.

(3) MS. FORBES: Marilyn Forbes on
(4) behalf of RJ Reynolds Tobacco Company.

(5) MICHAEL SHANNON,
(6) having been first duly sworn, was examined and did
(7) testify as follows:

EXAMINATION

BY MR. MAISTROS:

(10) Q: Good morning, Mr. Shannon. My name
(11) is Jack Maistros. I represent five plaintiffs in
(12) New York litigation currently pending in the State
(13) of New York.

(14) I am going to ask you a series of
(15) questions. If you don't understand any of my
(16) questions tell me; I'll rephrase it. If you want
(17) to take a break, tell me and we'll take a break
(18) and - otherwise, we'll go through the questions
(19) and try to get you out of here as soon as
(20) possible, okay?

(21) A: Okay.

(22) Q: Could you please state and spell
(23) your full name for the record.

(24) A: Michael David Shannon; M-i-c-h-a-e-l
(25) D-a-v-i-d S-h-a-n-n-o-n.

(1) A: One son.

(2) Q: What's his name and age?

(3) A: Joshua David Shannon, age 19.

(4) Q: Have you been in the military?

(5) A: No.

(6) Q: Could you briefly tell me your high
(7) school - where you went to high school, college,
(8) the years, degrees obtained.

(9) A: Okay. For high school - I got a GED
(10) diploma from high school. And then I attended
(11) Davidson County Community College; two year degree
(12) there. Wake Forest University; completed my BS in
(13) chemistry in 1977.

(14) Q: What year did you start Wake
(15) Forest?

(16) A: 1975, I believe.

(17) Q: And you have a B.S., in chemistry?

(18) A: Yes.

(19) Q: Any other degrees?

(20) A: No.

(21) Q: Do you hold any licenses other than
(22) a drivers license?

(23) A: No.

(24) Q: Have you ever taught?

(25) A: Have I ever taught?

LORILLARD TOBACCO COMPANY

Page 12

Page

(1) Q: Taught courses?
 (2) A: Just a math course in - for some college
 (3) kids.
 (4) Q: Have you taken any continuing legal
 (5) education courses?
 (6) A: Legal education, no.
 (7) Q: Any continuing chemistry courses?
 (8) A: No.
 (9) Q: Any seminars attended where you
 (10) were awarded certificates or any sort of diplomas
 (11) or degrees or anything?
 (12) A: Just normal courses you take within -
 (13) within the company; management courses, those
 (14) kinds of things.
 (15) Q: Have you ever heard of - of
 (16) Townsend and Norman Cigarette Design course?
 (17) A: Yes.
 (18) Q: Have you ever taken that?
 (19) A: No. No.
 (20) Q: Have you published anywhere?
 (21) A: No.
 (22) Q: Have you had your deposition taken
 (23) before?
 (24) A: No.
 (25) Q: Have you been a party to a lawsuit?

(1) documents to the government?
 (2) A: Not that I recall.
 (3) Q: What years were you at Reynolds?
 (4) A: From 1977 until 1992.
 (5) Q: Was Reynolds your first full-time
 (6) employment?
 (7) A: After college, yes.
 (8) Q: After college had you had any
 (9) previous experience with any tobacco company?
 (10) A: No.
 (11) Q: Did any of your prior chemistry
 (12) work involve anything related to tobacco?
 (13) A: No.
 (14) Q: Nicotine?
 (15) A: Prior to joining Reynolds?
 (16) Q: Yes.
 (17) A: No.
 (18) Q: Filter design?
 (19) A: No.
 (20) Q: Could you roughly tell me the years
 (21) and titles you held at Reynolds. If you could
 (22) just run through them chronologically.
 (23) A: As best I can recall, and I will try to do
 (24) that, I joined Reynolds, as I said, in 1977. That
 (25) was as a junior chemist. You want me to go

Page 13

Page

(1) A: No.
 (2) Q: Have you ever given any testimony
 (3) under oath anywhere?
 (4) A: I think a traffic incident years ago, but
 (5) other than that, no.
 (6) Q: Have you ever appeared before any
 (7) governmental agencies to provide testimony?
 (8) A: No.
 (9) Q: Have you ever submitted any
 (10) affidavits or signed documents that were submitted
 (11) to the government for any purpose other than your
 (12) tax forms?
 (13) A: No.
 (14) Q: Did you ever participate in any
 (15) fashion to any documents that Reynolds submitted
 (16) to the FDA or the FTC or Justice Department?
 (17) A: Yes.
 (18) Q: What type of documents?
 (19) A: In the course of doing the Premier project,
 (20) we prepared documents that I helped with.
 (21) Q: That was to the FDA or FTC?
 (22) A: Probably both. I don't remember the
 (23) specifics.
 (24) Q: Any other occasions where you
 (25) submitted - participated in the submission of

(1) through the titles now, right?
 (2) Q: Just the titles and the years.
 (3) A: Two or three years later I was promoted to
 (4) associate chemist; from there to R & D chemist.
 (5) These roughly came at two to three year intervals.
 (6) okay.
 (7) From R & D chemist I went and did
 (8) quality assurance as a manager. So, I was QA
 (9) manager. Went back to R & D as a senior staff
 (10) scientist and then was a manager.
 (11) Q: Manager of what?
 (12) A: Let me see how that finally ended up on
 (13) that title, Advanced Product Technologies. That
 (14) changed names several times.
 (15) Q: Do you know when you became a
 (16) manager of advanced product technologies?
 (17) A: It was either 1984 or 1985.
 (18) Q: And you held that position until
 (19) '92?
 (20) A: Yes. Although it took on different names
 (21) and different functions.
 (22) Q: As a junior chemist/associate
 (23) chemist, was that under a group - a specific
 (24) group?
 (25) A: It was in the old research department

February 2, 1998

LORILLARD TOBACCO COMPANY

Page 16

Page 18

(1) before the two were combined. And it was in a
(2) group - and I know you want to know the name,
(3) don't you?

(4) Q: I might have some documents
(5) we'll - we'll get to later that might have it on
(6) it.

(7) But it was before research was
(8) combined with development?

(9) A: Yes.

(10) Q: And what year was that that
(11) research was combined with development?

(12) A: I think about 1980.

(13) Q: As a junior chemist and associate
(14) chemist also - well, you said you then became an
(15) R & D chemist. Tell me first who was your
(16) immediate supervisor as a junior chemist and
(17) associate chemist.

(18) A: Jim Dickerson initially - Dr. Jim
(19) Dickerson, and subsequently Dr. Bob Lloyd. Those
(20) were my immediate supervisors. They were group
(21) leaders.

(22) Q: And who was the manager of those?

(23) A: Dr. Henley - Dr. Walt Henley.

(24) Q: What was his title?

(25) A: He was the manager of that group that - I

(1) A: I just sent in a resume and was called in
(2) for an interview.

(3) Q: And who did you interview with?

(4) A: Alan Rodgman, Don Pichl, Walt Henley, Mary
(5) Stowe, Rob Lloyd.

(6) Q: And do you recall what it was, if
(7) anything, you were going to do when you first
(8) started? Were you told that, or did you come to
(9) learn that after you were hired?

(10) MS. FORBES: Objection to the
(11) form.

BY MR. MAISTROS:

(12) Q: Did you know what type of work
(13) you'd be doing when you were interviewing?

(14) A: Yes.

(15) Q: What type of work?

(16) A: Well, there were different - there were
(17) several different positions available. So, there
(18) were positions in the analytical group. There
(19) were positions - a position in the smoke
(20) chemistry analysis group. And then the position
(21) that I took, which was more of an applied
(22) science. I mean, we looked at moisture levels in
(23) cigarettes, casing levels.

(24) Q: Was it more of a product

Page 17

Page 19

(1) can't recall the name of the group.

(2) Q: Was it biobehavioral?

(3) A: No. No.

(4) Q: Now, at some point in time you
(5) became an R & D chemist. Who was your immediate
(6) supervisor?

(7) A: I'm sorry. We were going through so many
(8) reorganizations at the time. I believe it was
(9) Dr. Lloyd.

(10) Q: And how about his quality
(11) assurance?

(12) A: My supervisor there was Henderson.

(13) Q: And as R & D senior staff
(14) scientist?

(15) A: Dr. Lloyd.

(16) Q: And manager of product - Advanced
(17) Product Technologies?

(18) A: That also was a couple of different
(19) bosses.

(20) Dr. Lloyd at one time, Dr. Hildebolt at another
(21) time.

(22) Q: Hilde -

(23) A: Hildebolt.

(24) Q: How did you first obtain your
(25) position at Reynolds?

(1) enhancement position?

(2) MS. FORBES: Objection to the
(3) form.

(4) MR. MAISTROS: You can answer. She
(5) is going to object from time to time.

(6) THE WITNESS: I just keep -

(7) MR. MAISTROS: You just keep
(8) going.

(9) THE WITNESS: Okay. Was it more of
(10) a product enhancement position? No. At that time
(11) research did not do very much work directly with
(12) the product. We were considered kind of an
(13) irritable group that didn't do much product
(14) work.

BY MR. MAISTROS:

(15) Q: And what did you do when you first
(16) began at Reynolds?

(17) A: Casing studies.

(18) Q: What type of casing studies?

(19) A: Casing being the licorice, cocoa, and
(20) molasses.

(DISCUSSION OFF THE RECORD)

(21) VIDEOGRAPHER: On record.

BY MR. MAISTROS:

(22) Q: What are casings?

LORILLARD TOBACCO COMPANY

Page 20

Page

(1) A: The casings were the licorice, cocoa,
(2) molasses that were added to burley tobacco to go
(3) into the blend.
(4) Q: When are they added?
(5) A: They're added to the burley tobacco.
(6) Q: Before anything else is done to the
(7) tobacco or after the cigarettes are made? I don't
(8) understand when the casing's applied.
(9) A: Okay. The - the different tobacco types
(10) that go into the batch like flue-cured, burleys -
(11) so, onto the burley portion, while it's still in a
(12) stripped leaf form, it is cased with the compounds
(13) that I just told you about. Then it's dried and,
(14) subsequently, it is blended with the other
(15) tobaccos and ends up being cut and then goes into
(16) the cigarette.
(17) Q: What is the purpose of adding
(18) casings such as licorice, cocoa, and molasses you
(19) said? What is the purpose of that?
(20) A: To reduce the harshness of the burley
(21) tobacco.
(22) Q: Would that be the same as improving
(23) the taste of the burley tobacco?
(24) A: Sure. Yes, it would help with the taste as
(25) well.

(1) Q: And flue-cured didn't have the same
(2) harshness as -
(3) A: Flue-cured already has a lot of sugar in
(4) it; burley does not.
(5) Q: Were they - how long did this work
(6) continue that you were involved in with the
(7) casings, personally?
(8) A: Well, it was my entry level assignment that
(9) lasted maybe four to six months.
(10) Q: Were you working with currently
(11) known procedures, that is, just modifying the
(12) current use of these casings, or were you
(13) developing new procedures or what?
(14) A: Just working -
(15) MS. FORBES: Objection to the form.
(16) THE WITNESS: Just working with the
(17) existing components.
(18) BY MR. MAISTROS:
(19) Q: And did you do any research that
(20) was actually applied in the marketplace?
(21) A: At that point, no.
(22) Q: Did you work on any special
(23) cigarettes during this four to six month period?
(24) MS. FORBES: Objection to the
(25) form.

Page 21

Page

(1) Q: What - are there - other than the
(2) three casings that you mentioned, are there other
(3) types of casings?
(4) A: Licorice, cocoa, and molasses, and I think
(5) there - there is another - yes, there were other
(6) sugars that were used.
(7) Q: Did they have any other function or
(8) purpose other than to reduce the harshness of the
(9) tobacco?
(10) A: Well, as you said, probably to help with
(11) the taste somewhat too.
(12) Q: What type of work were you doing
(13) with the casings?
(14) A: We were trying to optimize the level of
(15) those different components.
(16) Q: How would you measure that?
(17) A: How do we measure the optimum level?
(18) Through panel tests, sensory tests as one means.
(19) Other means would be looking at the effect on a
(20) cigarette brand. There's firmness, pressure
(21) drops, any of the physical characteristics of a
(22) cigarette.
(23) Q: Were these casings only applied to
(24) the burley?
(25) A: At that time, yes.

(1) THE WITNESS: Only in that we would
(2) have been looking at some unusual casing levels
(3) and components and testing those, but -
(4) BY MR. MAISTROS:
(5) Q: What do you mean by that?
(6) A: Well, we were independently varying the
(7) levels of those components; therefore, some of
(8) those cigarettes may have had elevated levels or
(9) unusually low levels of licorice or the molasses
(10) or something.
(11) Q: And this was to attempt to
(12) determine the effect on harshness, varying levels?
(13) A: In part the harshness, the other physical
(14) cigarette attributes.
(15) Q: Did any of your work involve
(16) measuring nicotine levels in this four-to
(17) six-month period?
(18) A: We looked at the nicotine levels, yes.
(19) Q: And when I say nicotine levels, I'm
(20) talking about yields. Do you know what "yield"
(21) is?
(22) A: Yes.
(23) Q: How do you understand yield?
(24) A: Well, it could probably be interpreted
(25) different ways. I assumed you meant the nicotine

(1) delivered from the cigarette.
 (2) Q: In the smoke?
 (3) A: In the smoke.
 (4) Q: All right. If I used nicotine
 (5) yield, do you understand my question to be FTC
 (6) nicotine yield?
 (7) A: Oh, yes.
 (8) Q: What is FTC nicotine yield?
 (9) A: That is a two second puff, 35-milliliter
 (10) volume taken every 60 seconds, and therefore the
 (11) amount of nicotine that's trapped on the Cambridge
 (12) pad.
 (13) Q: So, in layman terms, if you light
 (14) the cigarette and smoke it, it's how much nicotine
 (15) ends up on the pad after that cigarette is smoked
 (16) by the machine?
 (17) A: Yes.
 (18) Q: Why were you looking at nicotine
 (19) levels in your work with casings?
 (20) A: Well, because we were interested in the
 (21) effect of the casing on the harshness. Certainly
 (22) the nicotine is a parameter that correlates with
 (23) harshness, and additionally, it was just a
 (24) standard measurement that we took in virtually any
 (25) experiment that we - that we conducted.

(1) efficiency.
 (2) A: Now, how much is in the Cambridge pad is
 (3) the yield, the delivery; divide that by the total
 (4) amount that was available in the tobacco.
 (5) Q: And do you understand that
 (6) flue-cured, burley, and oriental have different
 (7) nicotine transfer efficiency rates as a general
 (8) rule?
 (9) A: I believe there are some differences but
 (10) they - they are not, in my mind, big differences.
 (11) Q: What did you do after your four to
 (12) six months on casings?
 (13) A: Somewhere along the way in addition to
 (14) looking at the casings -
 (15) (DISCUSSION OFF THE RECORD)
 (16) VIDEOGRAPHER: On record.
 (17) BY MR. MAISTROS:
 (18) Q: Again, what did you do after the
 (19) four to six month work on casings?
 (20) A: Well, it wasn't sequential. Somewhere
 (21) along the line I simultaneously picked up the
 (22) project of looking at the effect of the moisture
 (23) level of the cigarette on mostly consumer
 (24) acceptance.
 (25) Q: What type of - why don't you do

(1) Q: Why is that?
 (2) A: Why was it a -
 (3) Q: Standard measurement?
 (4) A: We ran an awful lot of tar and nicotine
 (5) analysis.
 (6) Q: Can sugar affect the nicotine yield
 (7) of tobacco?
 (8) A: If it does, it's very negligible.
 (9) Q: Do you know what I mean by nicotine
 (10) transfer efficiency?
 (11) A: Yes.
 (12) Q: What's your understanding of that?
 (13) A: Certain amount of nicotine that's available
 (14) in the tobacco. The percent of that that actually
 (15) is trapped in the smoke and delivered in the smoke
 (16) to the Cambridge pad is a - is a fraction amount
 (17) that's available. So, if you look at the - the
 (18) amount that's delivered, divided by the total
 (19) amount that was available in the tobacco to start
 (20) with, you would get the transfer efficiency?
 (21) Q: Okay. So, when you say available,
 (22) such as, if you could measure the nicotine content
 (23) as opposed to the yield of the tobacco, that would
 (24) be your beginning of it. And how much is in the
 (25) Cambridge pad is the yield or the transfer

(1) the - tell me -
 (2) (DEPOSITION INTERRUPTED)
 (3) (DISCUSSION OFF THE RECORD)
 (4) VIDEOGRAPHER: Back on record.
 (5) BY MR. MAISTROS:
 (6) Q: Why were you looking at the
 (7) moisture levels of cigarettes?
 (8) A: I think it started because we had - or
 (9) Reynolds had a harshness signature, so to speak,
 (10) with many of the products, particularly Winston.
 (11) And we were aware that our moisture levels were a
 (12) little lower than the levels of the Philip Morris
 (13) products. And so we wanted to take a look at
 (14) moisture as an independent variable to determine
 (15) whether that might be part of the reason that
 (16) products were as harsh as they were.
 (17) Q: And when you say the moisture
 (18) levels, are you saying as the cigarette comes out
 (19) of the factory or after its been sitting on the
 (20) shelf for a couple of months? What are you
 (21) saying?
 (22) MS. FORBES: Objection. Compound.
 (23) THE WITNESS: Both of those. We
 (24) wanted to know as the smoker was smoking the
 (25) product the moisture level at that point. Then we

Page 28

Page

(1) would have to backtrack to find out what the
(2) moisture would be coming out of the factory or the
(3) moisture level of the product as it was on the
(4) shelf, and which shelf it was on in different
(5) parts of the country.

(6) Q: And what type of test did you do?

(7) A: Again, we looked at routine smoke
(8) chemistry, tar and nicotine, et cetera. And we
(9) also did the panel tests.

(10) Q: What, if any, relationship is there
(11) between the moisture level of the tobacco and
(12) nicotine yields and nicotine delivery?

(13) A: Very little effect.

(14) Q: Did you measure the nicotine yields
(15) as a - as a part of your studies on measuring the
(16) moisture contents of the cigarettes?

(17) A: Yes.

(18) Q: Why?

(19) A: Well, again, because it's a routine test
(20) and we were measuring the response, we were
(21) interested in seeing what the effect of a moisture
(22) level would be. So, tar and nicotine and certain
(23) other parameters, particularly physical
(24) attributes, like firmness, pressure drop, et
(25) cetera, were factors that would be significant to

(1) A: No, Not - there were difficulties in
(2) trying to manufacture the cigarettes at the higher
(3) moisture levels. The machines did not run as
(4) efficiently. So, I think there was some work done
(5) toward that end of just improving machine
(6) efficiency, but we - we never implemented the
(7) real high moisture levels anyway.

(8) Q: How did you attempt to increase the
(9) moisture levels?

(10) A: Well, there would be a couple of ways. You
(11) could just try to manufacture the cigarettes at
(12) higher moisture levels, in which case you're just
(13) adding extra water to the tobacco. And/or you
(14) could also use higher levels of humectants.

(15) Q: What's a humectant?

(16) A: It would be a compound that would be
(17) hygroscopic, attract and hold water.

(18) Q: Did Reynolds - during the course
(19) of your moisture test studies, is there another
(20) thing to call these things - this period of time
(21) you were testing the moisture, is - is there a
(22) project behind it?

(23) A: I don't know that it had any other name
(24) other than the moisture work.

(25) Q: The moisture work - is there -

Page 29

Page

(1) - would be significant in what moisture would do
(2) to a cigarette. We had to know what those effects
(3) would be. That's why we measure the tar and the
(4) nicotine.

(5) Q: Did you arrive at any conclusions
(6) as a result of this test?

(7) A: Yes.

(8) MS. FORBES: Objection. Which
(9) test?

BY MR. MAISTROS:

(10) Q: Moisture test.

(11) A: Yes. Actually we - it was - it turned
(12) out to be a very important study. There were
(13) quite significant effects of moisture,
(14) particularly on consumer responses; smoothness,
(15) harshness, irritation.

(16) Q: But what specific results did you
(17) find affected those harshness, tastes, et cetera?

(18) A: We found that as we increased the moisture
(19) level of the cigarettes, that we were able to
(20) significantly move the perceptions of harshness
(21) and irritation.

(22) Q: Were there any changes to Reynolds
(23) manufacturing processes that took place as a
(24) result of these particular tests?

(1) during the course of that moisture work, did
(2) Reynolds make calculations to see how the nicotine
(3) yields were affected as a result of the changes in
(4) the moisture levels?

(5) A: Yes. I did that, yes.

(6) Q: How would you measure that? Just
(7) on a Cambridge pad?

(8) A: Yes. Again, you would be trapping the
(9) nicotine on a Cambridge pad. Measure the amount
(10) of nicotine delivered at the various moisture
(11) levels.

(12) Q: How long did that work continue -
(13) moisture tests?

(14) A: Those studies probably went on for a year
(15) and a half or so.

(16) Q: Is this something you were doing
(17) full-time, or were you doing other work while you
(18) were doing these moisture tests?

(19) A: Well, part of it was overlapping with
(20) casing studies, and then part of it also
(21) overlapped as I started doing some work on ultra
(22) low-tar cigarettes.

(23) Q: What was the next major area that
(24) you focused on?

(25) A: The ultra low-tar cigarettes.

February 2, 1998

LORILLARD TOBACCO COMPANY

Page 32

Page 34

(1) Q: Was there a project name behind
(2) that?
(3) A: Probably was. I don't recall right now
(4) what it was.
(5) Q: What type of work did you do on
(6) ultra lows?
(7) A: We were trying to develop technologies and
(8) ways of making ultra low-tar cigarettes more
(9) acceptable. And we were interested in what we
(10) called, I believe, the Gori cigarette; G-O-R-I.
(11) Q: The Gori cigarette?
(12) A: Gori was a doctor. I believe it was
(13) Dr. G.O. Gori - it's been a long time for me - who
(14) did some statistical analysis of how much the
(15) different compounds in cigarette smoke a smoker
(16) could inhale or actually take in every day. And
(17) he was trying to establish a threshold level at
(18) which point no health consequences would be
(19) expected. And therefore, he did set levels for
(20) tar, for carbon monoxide, acrolein, hydrogen
(21) cyanide, I believe, formaldehyde, maybe.
(22) Q: Nicotine?
(23) A: I - I think so. I think so. I'm not sure
(24) on nicotine.
(25) Q: Now, when you refer to the

(1) A: Yes.
(2) Q: Could you give me some examples.
(3) A: Now.
(4) Q: Is there a tar and nicotine level
(5) that would be considered ultra low?
(6) A: We - we accepted 5 milligrams and under in
(7) tar level as being ultra low.
(8) Q: How about nicotine? Is there - is
(9) there a correlation?
(10) A: There is a correlation but the - the
(11) category is specified by that tar level.
(12) Q: So, the ultra cigarettes
(13) manufactured by Reynolds - when I use the word
(14) ultra, or you use it, you're referring to the tar
(15) levels?
(16) A: Yes.
(17) Q: Does ultra have any reference to
(18) the nicotine levels? Ultra low -
(19) A: Only in that the nicotine rides along with
(20) the tar. They are at a pretty constant ratio.
(21) So, if you're at ultra low-tar you would be at
(22) ultra low nicotine.
(23) Q: How long did you work on the ultra
(24) low-tar cigarette or the improvements?
(25) A: Probably all together a year or so. Again,

Page 33

Page 35

(1) compounds you could inhale, you're talking about
(2) compounds of concern or any compounds?
(3) A: Those were the compounds, I believe, that
(4) he targeted as compounds of concern.
(5) Q: Do you know when he - what's
(6) referred to as the Gori cigarette? Do you know
(7) when that was developed?
(8) MS. FORBES: Objection to the form.
(9) THE WITNESS: Well, I mean, the
(10) Gori cigarette was not developed.
(11) BY MR. MAISTROS:
(12) Q: The idea of the Gori cigarette?
(13) You said the Gori cigarette.
(14) A: We loosely refer to it as the Gori
(15) cigarette or Gori project, yes.
(16) Q: When did Mr. Gori come out with his
(17) minimum threshold levels or maximum threshold
(18) levels?
(19) A: I - I am not sure.
(20) Q: Who was in charge of the ultra low
(21) when you were working on it?
(22) A: That was my project.
(23) Q: At the time you began that work,
(24) did Reynolds already have what they considered as
(25) ultra low cigarettes?

(1) there is some overlapping with the other projects.
(2) Q: And what did you do in an attempt
(3) to improve those?
(4) A: Tried to address draw. The consumer
(5) perception of draw.
(6) Q: What is draw?
(7) A: I think they're still asking that in the
(8) industry. Draw can be defined scientifically as
(9) the pressure drop of the cigarette. Draw to a
(10) consumer is how much work he has to exert to get
(11) smoke out of the cigarette.
(12) Q: Is there something about the draw
(13) of ultra low cigarettes that's different than the
(14) draw of full-flavored cigarettes?
(15) A: It depends on which definition of draw
(16) you're using. The consumer conception of draw,
(17) yes. The ultra low cigarettes are extremely hard
(18) to draw. The pressure drop of them, though, is
(19) not significantly different.
(20) Q: So, the draw cannot be measured in
(21) scientific terms by a specific measure, as well as
(22) consumer terms?
(23) A: If you use the scientific definition of
(24) draw to mean pressure dropped, it can be
(25) scientifically measured as pressure dropped; but

LORILLARD TOBACCO COMPANY

February 2, 1998

Page 36

Page

(1) it does not correlate with what the consumer calls
(2) "draw."

(3) Q: Why is draw important to the
(4) cigarette?

(5) MS. FORBES: Objection to the form.

(6) THE WITNESS: Consumers, in trying
(7) to move down in tar - tar level to the ultra low
(8) tar category, their chief complaint was frequently
(9) that ultra low tar cigarettes were too hard to
(10) draw.

(11) BY MR. MAISTROS:

(12) Q: Now, is that actually in the
(13) context of inhaling hard to get more smoke out of
(14) it or they just didn't taste as harsh? Is it a
(15) taste sense? What is it?

(16) MS. FORBES: Objection to the form.

(17) THE WITNESS: Not in a consumer
(18) standpoint.

(19) MS. FORBES: Objection to the form.

(20) THE WITNESS: Again, when they -
(21) when the consumer says draw, it just means he is
(22) having to work too hard to get the smoke out of
(23) the cigarette.

(24) BY MR. MAISTROS:

(25) Q: What did you - what research did

(1) THE WITNESS: Well, tar is not a
(2) component of tobacco. Nicotine is a component of
(3) tobacco. But we were able to selective - select
(4) grades of tobacco that were higher in nicotine
(5) where the tar would be reasonably constant.

(6) BY MR. MAISTROS:

(7) Q: Again, we're talking about nicotine
(8) yields?

(9) A: Yes.

(10) Q: Did any of your work result in
(11) improvements to commercially sold cigarettes?

(12) A: Yes. That work actually resulted in the
(13) introduction of Winston Ultra Light.

(14) Q: And how was that cigarette product
(15) different than the previously existing ultra
(16) light?

(17) A: A slightly elevated level of nicotine.

(18) Q: And how did Reynolds achieve the
(19) elevated level of nicotine in that commercially
(20) sold product?

(21) A: Through the selection of certain grades of
(22) tobacco.

(23) Q: When you say grade, are you talking
(24) about - is there a means to quantify the amount
(25) of nicotine in tobacco that Reynolds buys?

Page 37

Page

(1) you do to try to improve that problem?

(2) A: We did some work with manipulating the
(3) pressure drop of the cigarette. And then we did
(4) - probably the area focus was on the - the
(5) nicotine delivery.

(6) Q: What does nicotine delivery have to
(7) do with draw?

(8) A: Because nicotine provides a lot of
(9) sensation into the mouth and the throat and the
(10) lungs. So, by boosting the nicotine you could
(11) improve the mouth feel, the sensation in the
(12) mouth, therefore, give the consumer the sensation
(13) that he was getting more smoke.

(14) Q: And how did you work on that?

(15) A: How did I work on it?

(16) Q: How did you - what type of
(17) research or work did you do to boost the nicotine?

(18) A: Looked at higher nicotine tobaccos.

(19) Q: Wouldn't that increase the tar as
(20) well?

(21) A: No.

(22) Q: Did Reynolds have tobaccos with
(23) higher nicotine but constant levels of tar?

(24) MS. FORBES: Objection to the
(25) form.

(1) MS. FORBES: Objection to the form.

(2) THE WITNESS: Okay. I'm not
(3) sure -

(4) BY MR. MAISTROS:

(5) Q: Reynolds buys tobacco from a farm,
(6) right?

(7) A: More or less, yes.

(8) Q: Eventually from -

(9) A: Right.

(10) Q: It started at the farm. It may end
(11) up at a warehouse. They buy this tobacco - do
(12) they know the nicotine content of the tobacco when
(13) they buy it?

(14) A: They have a very - they have a reasonable
(15) idea. They don't have a scientific analysis of
(16) the nicotine at that point, but they do know what
(17) part of the stalk that leaf came from. And we
(18) have been - know from the stalk position then the
(19) relative amount of nicotine.

(20) Q: That's - that's what I'm getting
(21) at. How do they know which tobacco to buy to get
(22) this higher nicotine content?

(23) MS. FORBES: Object to the form.

(24) BY MR. MAISTROS:

(25) Q: So they selected a -

February 2, 1998

LORILLARD TOBACCO COMPANY

Page 40

Page 42

(1) **MS. FORBES:** Mischaracterizes.
 (2) **BY MR. MAISTROS:**
 (3) **Q:** They selected - let's back up
 (4) then.
 (5) Didn't you say they selected a
 (6) higher nicotine content tobacco for these
 (7) researched cigarettes?
 (8) **A:** I said we selected the grades of tobacco
 (9) that would be higher in nicotine.
 (10) **Q:** Okay. How did Reynolds know then
 (11) the leaves they were buying had higher nicotine
 (12) levels? Just on experience? You can't do a
 (13) test -
 (14) **A:** From the stalk position that the leaves
 (15) came from, we knew which stalk positions would
 (16) have higher or lower amounts of nicotine.
 (17) **Q:** Reynolds storehouses tobacco,
 (18) doesn't it?
 (19) **A:** Yes, it does; or it used to.
 (20) **Q:** They used to. And all the tobacco
 (21) is not the same, I assume?
 (22) **A:** That's - that's correct.
 (23) **Q:** And the tobacco they store has
 (24) different nicotine contents?
 (25) **A:** Those are different grades of tobacco and

(1) **MR. MAISTROS:** That's all right.
 (2) **BY MR. MAISTROS:**
 (3) **Q:** When - when Reynolds selects its
 (4) tobacco, when you were working there, did they
 (5) know the nicotine content of the tobacco selected
 (6) for any particular cigarette? Within a range.
 (7) **A:** Would they know the nicotine level? Yes.
 (8) **Q:** When you talk about grade, I assume
 (9) it means more than nicotine level?
 (10) **A:** Yes.
 (11) **Q:** Did Reynolds keep specifications on
 (12) the various types of tobacco it had in storage
 (13) that would identify the range of nicotine in that
 (14) tobacco?
 (15) **A:** Yes.
 (16) **Q:** And for any particular cigarette,
 (17) Winston. Winston Select, Reynolds would pick a
 (18) particular type of tobacco based upon a particular
 (19) nicotine yield to go into that cigarette?
 (20) **A:** No. Not based -
 (21) **MS. FORBES:** Mischaracterizes.
 (22) **MR. MAISTROS:** I'm asking him.
 (23) **THE WITNESS:** Not based on the
 (24) nicotine level but based on the grades, because
 (25) the grades would then - based on the grades you

Page 41

Page 43

(1) they will have different levels of nicotine.
 (2) **Q:** Does Reynolds know that warehouse A
 (3) has got a certain nicotine content and warehouse B
 (4) has got a different nicotine content?
 (5) **MS. FORBES:** Objection.
 (6) Mischaracterizes.
 (7) **THE WITNESS:** He - Reynolds knows
 (8) that there are - where those grades of tobaccos
 (9) are. And it does know what the nicotine levels
 (10) are of those grades of tobacco.
 (11) **BY MR. MAISTROS:**
 (12) **Q:** The reason I asked this - we've
 (13) had many Reynolds people testify that this picked
 (14) tobacco is put in cigarettes and there is no
 (15) effort made to determine what the nicotine levels
 (16) are. Do you know if that was the case at
 (17) Reynolds?
 (18) **MS. FORBES:** Just a minute.
 (19) Objection. Motion to strike testimony by
 (20) counsel. What's your question?
 (21) Could you read the question back.
 (22) **BY MR. MAISTROS:**
 (23) **Q:** Start over. Did Reynolds -
 (24) **MR. CLIMACO:** You have to - I'm
 (25) sorry - let her read it back.

(1) would get a certain nicotine level, as you're
 (2) saying, but also a certain sugar level and a lot
 (3) of other compounds in that tobacco.
 (4) **BY MR. MAISTROS:**
 (5) **Q:** As a result of your research on
 (6) ultra lights and the means to improve the draw, it
 (7) was eventually incorporated into which Winston
 (8) cigarette?
 (9) **A:** Winston Ultra.
 (10) **Q:** Was that solely a function of
 (11) selecting a different grade of tobacco?
 (12) **A:** Yes.
 (13) **Q:** What type of tobacco did you
 (14) utilize for that research?
 (15) **A:** Well, the same tobaccos, I think, are still
 (16) used on all the cigarettes; and you have burley
 (17) and flue-cured and oriental, G7.
 (18) **Q:** Is there a special name for the
 (19) tobacco that's used in Winston Ultras?
 (20) **A:** That blend may have a special designation,
 (21) but I don't think there's a name -
 (22) **Q:** Well, if -
 (23) **A:** - the way you're implying it.
 (24) **Q:** If the goal is to increase the
 (25) nicotine in the tobacco to improve the draw of the

(1) ultra lights -
 (2) A: Uh-huh.
 (3) Q: - how does Reynolds know that
 (4) they're getting the right nicotine levels at the
 (5) beginning of the process?
 (6) A: Well, again, you - you establish -
 (7) MS. FORBES: Objection to the
 (8) form.
 (9) THE WITNESS: Again, you establish
 (10) a blend for that cigarette. And that blend would
 (11) be - would constitute a bunch of different grades
 (12) of tobacco - the grades selected. So, that they
 (13) would have higher nicotine content - they would
 (14) generally be the upper stalk tobaccos. Once you
 (15) have established that blend with those grades,
 (16) then that blend is what is used in the factory to
 (17) produce the cigarettes.
 (18) BY MR. MAISTROS:
 (19) Q: How many different grades are
 (20) there?
 (21) A: A lot. With flue-cured I recall maybe a
 (22) dozen grades, maybe a lot more than that. And
 (23) then burley has different grades. The oriental
 (24) has different grades.
 (25) Q: Do you know how much the nicotine

(1) in the tobacco affect the nicotine content?
 (2) A: No.
 (3) Q: Does the location where the tobacco
 (4) is grown affect the nicotine content?
 (5) A: Well, if it does that would be in the stalk
 (6) position and grade.
 (7) Q: How about the fertilizers used?
 (8) Does that affect the nicotine -
 (9) A: Yes.
 (10) Q: - content?
 (11) A: Yes. There are, I think, certain cultivars
 (12) of tobacco that have very significantly different
 (13) nicotine levels; the amount of nitrogen that's
 (14) used in the fertilizer, and I think even - yes,
 (15) the amount of rainfall on the tobacco growing will
 (16) affect the amount of nicotine.
 (17) Q: Do the different tobaccos you've
 (18) listed have different nicotine transfer efficiency
 (19) rates?
 (20) MS. FORBES: Objection.
 (21) Overbroad.
 (22) THE WITNESS: I think I answered
 (23) that before, but the transfer efficiency is very
 (24) similar. There may be some minor differences but
 (25) they are not significant in my mind.

(1) content varies between the grades or the percent?
 (2) A: Boy, sure used to. Probably a percent and
 (3) a half.
 (4) Q: And is that by weight of the
 (5) tobacco?
 (6) A: Uh-huh.
 (7) Q: Other than a stalk position what
 (8) other type of things affects the nicotine content
 (9) of the tobacco?
 (10) A: Other than the stalk position - the types
 (11) of tobaccos that you use. By that I'm talking
 (12) about the burley, the flue-cured, the oriental,
 (13) and the G7. The oriental and G7 have very low
 (14) levels of nicotine, only about 1 percent; with
 (15) your flue-cureds and burleys running 2 to 3
 (16) percent.
 (17) So, the only way to alter the
 (18) nicotine content, in addition to the selection of
 (19) the grades, is in varying the amounts of the
 (20) tobacco types.
 (21) Q: Other than tobacco type in a stalk
 (22) position, is there anything else that affects the
 (23) nicotine content of the tobacco?
 (24) A: No. Not that I'm aware of.
 (25) Q: That's what I - does the moisture

(1) BY MR. MAISTROS:
 (2) Q: What did you do after your ultra
 (3) light work?
 (4) A: Well, actually, somewhere along the way - I
 (5) forgot to mention this while we were talking about
 (6) blending - but I also had a project that was
 (7) blending by chemical composition. And the point
 (8) of that work - the point of that work was to see
 (9) if we could blend - put blends together based on
 (10) knowing the chemistries of the tobaccos rather
 (11) than the - what was the almost mystical art -
 (12) art - arty way it was done up until that point.
 (13) Blending was considered something of a black art
 (14) with all these different grades that I've told you
 (15) about. And so this project did - the goal behind
 (16) this project was to see if we could eliminate
 (17) those grade designations and blend strictly based
 (18) on the chemistry of the tobaccos.
 (19) Q: What type of chemistry - what
 (20) particular compounds were you interested in?
 (21) A: Mostly the sugar level and the nicotine
 (22) levels.
 (23) Q: How would you measure that in
 (24) tobacco?
 (25) A: How would we measure it? I - I sent it to

February 2, 1998

LORILLARD TOBACCO COMPANY

Page 48

(1) the analytical group; it measured it.
 (2) Q: And they had means to measure the
 (3) sugar levels and nicotine content of the leaves?
 (4) A: Sure.
 (5) Q: How long were you doing that
 (6) research?
 (7) A: It overlapped with some of the other
 (8) projects, but it lasted probably nine to twelve
 (9) months.
 (10) Q: Did you arrive at any conclusions?
 (11) A: Yes. Actually, we were able to show that
 (12) if we did our blending based just on some of the
 (13) chemical compounds, that we could achieve this
 (14) parody with blends that were put together based on
 (15) the old grade designations.
 (16) Q: And what specific compounds did you
 (17) quantify or identify during this process?
 (18) A: Sugar and nicotine for sure. And there
 (19) were other compounds that I'm fuzzy on now.
 (20) Probably nitrates.
 (21) Q: Nitrogen?
 (22) A: Yes, Nitrogen.
 (23) Q: Did any of your - what do we call
 (24) this project? Does it have a name?
 (25) A: Just blending by chemical composition.

Page 49

(1) Q: Did any of your blending by
 (2) chemical composition work result in commercially
 (3) sold -
 (4) A: No.
 (5) Q: - products?
 (6) A: No.
 (7) Q: Was it applied in the -
 (8) A: No.
 (9) Q: Are grades - or tobacco selected
 (10) based upon chemical makeup of the tobacco at
 (11) Reynolds?
 (12) A: (No response.)
 (13) Q: As a result of this work was any of
 (14) it
 (15) applied -
 (16) A: No.
 (17) Q: - in the actual real world?
 (18) A: No.
 (19) Q: Is it - did your work have any -
 (20) did your work have any application after you did
 (21) it, in any form?
 (22) MS. FORBES: Objection. Overbroad.
 (23) THE WITNESS: Not that I can
 (24) recall.
 (25) BY MR. MAISTROS:

Page 50

(1) Q: What was the goal of attempting to
 (2) blend tobacco based on chemical compositions as
 (3) opposed to grading?
 (4) A: To try to reduce blending to a science
 (5) rather than the art that it was.
 (6) Q: What was your next work focused on?
 (7) A: I think I - I concluded that stage of my
 (8) career before I went to QA. I concluded that
 (9) stage of my career with the ultra low tar
 (10) cigarette work. I moved then from the research
 (11) department to the development department and
 (12) worked - in addition to the Winston Ultra, I
 (13) worked on some other ultra low tar cigarettes, but
 (14) that - that was only for a few months before I
 (15) moved into the QA job.
 (16) MS. FORBES: Jack, if you're at a
 (17) good place in a couple of minutes, I'd like to
 (18) take a break.
 (19) MR. MAISTROS: All right.
 (20) BY MR. MAISTROS:
 (21) Q: When you said you were in the
 (22) development department that's different than Q &
 (23) A?
 (24) A: R & D is now one unit, R & D. I told you I
 (25) started out in the research unit before they were

Page 51

(1) combined. Then I moved to the development
 (2) department, and again it was before R & D were
 (3) combined.
 (4) MR. MAISTROS: Okay. We'll take a
 (5) break and then we'll continue.
 (6) (RECESS TAKEN)
 (7) VIDEOGRAPHER: On record.
 (8) BY MR. MAISTROS:
 (9) Q: Okay. Could you tell us about -
 (10) generally about the quality assurance, the group
 (11) or department at Reynolds?
 (12) A: The one at my unit or the entire
 (13) operation?
 (14) Q: Yours.
 (15) A: Okay. My - my unit was responsible for
 (16) the quality assurance of the processed tobaccos.
 (17) The processed tobaccos being the G7, the puffed
 (18) tobacco, some rolled sheet, rolled stems. Oh, and
 (19) the V-neck process.
 (20) Q: What type of factors go into
 (21) quality assurance with respect to those tobaccos?
 (22) A: That's a pretty broad question. But in G7,
 (23) for example, that's essentially a paper making
 (24) process. So, we had to look at the other
 (25) slurries, the viscosity measurements on those

LORILLARD TOBACCO COMPANY

Page 52

(1) tests, freeness tests on those, a lot of the
 (2) standard paper tests on those.
 (3) On the puffed tobacco we looked at
 (4) the amount of expansion on the puffed tobacco and,
 (5) of course, on the V-neck process we looked at the
 (6) amount of nicotine removal.
 (7) Q: And what's the rolled sheet, stem
 (8) process?
 (9) A: The rolled sheet was actually a sheet that
 (10) was used on the - while we still had the chewing
 (11) tobacco business. It was a sheet that was made to
 (12) go around the plug.
 (13) Q: Is that strictly chewing tobacco?
 (14) No relation to cigarettes - rolled sheet?
 (15) A: Yes.
 (16) Q: So in the - the cigarette
 (17) processed tobaccos you're talking about G7, which
 (18) is reconstituted tobacco?
 (19) A: Yes.
 (20) Q: Puffed tobacco, which some people
 (21) call expanded tobacco?
 (22) A: Yes.
 (23) Q: And V-neck process, which some
 (24) people call KDN?
 (25) A: Yes, sir.

(1) question.
 (2) A: Well, in the expanded tobacco you do have
 (3) different blends of expanded tobacco. So, you do
 (4) get back to the different grades, and there would
 (5) be some different nicotine contents in the
 (6) different blends.
 (7) Q: Did Reynolds monitor the nicotine
 (8) content of the expanded tobacco?
 (9) A: Not at the point where - in the process
 (10) where it was being expanded, because that blend
 (11) was put together before it came into the expansion
 (12) plan. The only thing done in the plan was expand
 (13) it. So, there was nothing done to change the
 (14) nicotine level.
 (15) Q: Is the G7 made up of a particular
 (16) type of tobacco?
 (17) A: It's made up of essentially waste
 (18) material. There is stems; there is scrap.
 (19) Q: But is it flue-cured as opposed to
 (20) burley?
 (21) A: There are some - there are flue-cured
 (22) stems, there are burley stems, and there is scrap
 (23) that would would be a mixture.
 (24) Q: But it all goes into a G7 process?
 (25) A: Yes.

Page 53

(1) Q: Were those the only processed
 (2) tobaccos Reynolds had while you were there?
 (3) A: I believe so. That's all I recall.
 (4) Q: Did you ever look back historically
 (5) and figure out or try to determine why these
 (6) various processed tobaccos first came into being?
 (7) A: Well, I was aware of some of the folklore
 (8) that went with it, but I - no, I did not go back
 (9) and research any of the literature or information
 (10) about those processes.
 (11) Q: The G7, expanded, and KDN were all
 (12) around when you joined Reynolds?
 (13) A: Yes.
 (14) Q: What years do you think, if you can
 (15) recall, did you have this position at Q & A?
 (16) A: From '80 to the middle of '82, I believe.
 (17) Q: Was nicotine content part of the Q
 (18) & A process?
 (19) A: We monitored it off of the G7 line just by
 (20) taking random samples and checking it a couple of
 (21) times a week. It certainly wasn't much more than
 (22) that. The nicotine level and the G7 just never
 (23) varied that much. Pretty consistently hung around
 (24) 1 percent.
 (25) Q: And how about the expanded? Same

(1) Q: There is not flue-cured G7?
 (2) A: No. Not - No, not in this.
 (3) Q: Describe for me, if you will - I'm
 (4) a lawyer not a scientist or an engineer - the G7
 (5) process as you knew it.
 (6) A: Okay. It's essentially a paper making
 (7) process. Stems come in and some scrap; and it is
 (8) broken apart and defibrillated so that you can use
 (9) the fibers then to lay down a mat. The fibers in
 (10) the weave makes a mat. And then the juice from
 (11) that tobacco - that was taken from the tobacco
 (12) when it was being defibrillated is applied back on
 (13) top of their - of the paper sheet once it was
 (14) made.
 (15) Q: Is it treated in any fashion, that
 (16) juice?
 (17) MS. FORBES: Objection. Overbroad.
 (18) THE WITNESS: There certainly was
 (19) work done on looking at treatments to the - to
 (20) the juice.
 (21) I assume your next question is
 (22) what - what were those.
 (23) MS. FORBES: Wait until he asks his
 (24) question.
 (25) THE WITNESS: Okay. Okay.

February 2, 1998

LORILLARD TOBACCO COMPANY

Page 56

Page 58

[1] MS. FORBES: You may answer.

[2] That's his job to ask questions.

[3] THE WITNESS: Okay.

[4] BY MR. MAISTROS:

[5] Q: What treatments were applied to the
[6] juice?

[7] A: While I was in that position as manager of
[8] that QA area there were no treatments that I can
[9] recall.

[10] Q: How many different types of G7 are
[11] there or were there?

[12] A: There were - there were certainly just the
[13] standard G7 that was used in almost all cases.
[14] There were, at one time, some G7A which would be
[15] ammoniated G7. Right now, I don't even recall if
[16] that was commercially used or whether it was just
[17] something that was being tested in R & D.

[18] Q: What's ammoniated G7?

[19] A: I did not work on that. I'm not real
[20] familiar with it, but I believe it was a technique
[21] of ammoniating the extract and then applying it
[22] direct back onto the G7.

[23] Q: And what was the purpose in using
[24] ammonia?

[25] A: We knew or felt that Philip Morris was

[1] A: Does it affect the delivery of nicotine? I

[2] wouldn't say that, no.

[3] Q: Does pH have any correlation to
[4] nicotine?

[5] MS. FORBES: Objection. Overbroad.

[6] THE WITNESS: I - generally, yes.

[7] The higher the nicotine, you would receive higher
[8] pH - smoke pH levels.

[9] BY MR. MAISTROS:

[10] Q: Do you know what free versus bound
[11] nicotine is?

[12] A: I - frankly I'm a little fuzzy on that.

[13] I - I know I've heard it discussed, and I'm aware
[14] that the free nicotine is supposed to - supposed
[15] to be absorbed more readily in the lungs. It's
[16] more bio-available, maybe a little quicker hit in
[17] the body.

[18] Q: Nicotine is - is characterized as
[19] what, an alkaloid or -

[20] A: Yes.

[21] Q: Is it in a liquid form, a salt
[22] form, what is it?

[23] MS. FORBES: Objection, form.

[24] THE WITNESS: It's in its natural
[25] state in tobacco. Is it a liquid form or a solid

Page 57

Page 59

[1] using - was using ammonia in some form in its
[2] product. And again, because of some inferiority
[3] of our product versus theirs, we were
[4] investigating the use of ammonia to see if we
[5] could achieve the same kind of performance sensory
[6] results as what Philip Morris brands achieved.

[7] Q: During this time did Reynolds, to
[8] your knowledge, use ammonia in anything other than
[9] the reconstituted process?

[10] MS. FORBES: Objection.
[11] Mischaracterizes.

[12] THE WITNESS: At that time, I don't
[13] know. Somewhere along there we also looked at
[14] ammoniating flue-cured tobacco, but those are the
[15] only two I'm aware of.

[16] BY MR. MAISTROS:

[17] Q: But do you know what the ammonia
[18] did to the tobacco to improve it?

[19] A: I wouldn't say it necessarily - that it
[20] even improved it. It definitely altered it. We
[21] would typically get a rise in smoke pH. With that
[22] you - we would get some different sensory
[23] properties, different mouth feel, different
[24] harshness.

[25] Q: Does pH affect nicotine delivery?

[1] form? I'm not sure I can answer that question.

[2] BY MR. MAISTROS:

[3] Q: Do you know if there is any
[4] chemical reaction between ammonia and nicotine
[5] that affects the amount of free nicotine?

[6] MS. FORBES: Objection.
[7] Overbroad. In what context?

[8] MR. MAISTROS: Cigarette context.

[9] THE WITNESS: Okay. Would you just
[10] repeat the question.

[11] BY MR. MAISTROS:

[12] Q: Do you know if there is any
[13] association between ammonia and the amount of free
[14] nicotine that's in tobacco smoke?

[15] A: Between ammonia and - do I - I don't
[16] know for sure.

[17] Q: Do you know why Philip Morris was
[18] using ammonia in its products?

[19] A: No. Of course not. It would be a trade
[20] secret.

[21] Q: Do you know if the ammonia
[22] was - what form the ammonia was added to the G7?

[23] A: No, I don't.

[24] Q: Have you heard of gaseous ammonia?

[25] A: Of course.

(1) Q: Is that used at Reynolds - or was
(2) it?
(3) A: Not that I'm aware of.
(4) Q: Do you know what dyammonium
(5) phosphate is?
(6) A: Yes.
(7) Q: Was that used at Reynolds?
(8) A: I would - experimented with it. I don't
(9) know whether it was used in the process or not.
(10) Q: What experiments were done with it?
(11) A: Wasn't my area. So, I - I just - I'm not
(12) familiar enough with the details to speak to it.
(13) Q: During the two years you oversaw
(14) the G7 process, is it your testimony that the -
(15) the beginning to end the tobacco went in and was
(16) treated with something and then it came out as a
(17) sheet, was there any chemicals that you know that
(18) were added in that process?
(19) MS. FORBES: Objection to the form.
(20) THE WITNESS: No. Vaguely I
(21) remember something about maybe an antimicrobial
(22) compound, but, you know, other than that, no.
(23) BY MR. MAISTROS:
(24) Q: Was there ever excess - you call
(25) it juice, other people called it extract. Was

(1) nicotine of some of the burley, not all of it, to
(2) help reduce the harshness.
(3) Q: What did you do with the nicotine,
(4) or what did Reynolds do with the nicotine?
(5) A: I believe it was incinerated.
(6) Q: Were there ever experiments
(7) conducted to see if that extract could be
(8) reapplied to tobacco?
(9) A: I believe there were in later years. I
(10) believe so, yes.
(11) Q: Do you know the names of any of
(12) those experiments or projects?
(13) A: There was - we may have looked at it on
(14) the Premier project; a little fuzzy on that one.
(15) And then there was an XB project that definitely
(16) did look at it.
(17) Q: What was the purpose of looking at
(18) reapplying the KDN extract to tobacco?
(19) A: In those projects I mentioned?
(20) Q: Uh-huh.
(21) A: Well, let's take each project. For Premier
(22) we were looking for taste and sensory properties,
(23) and we needed a source of nicotine. We needed to
(24) be able to deliver some nicotine. For the XB
(25) project, that project was interested in lowering

(1) there ever any excess juice/water extract left
(2) over at the end of this process?
(3) A: No. It was pretty much all used; a very
(4) efficient process.
(5) Q: When the extract is reapplied to
(6) the sheet is it heated or is it just reapplied
(7) cold?
(8) A: The extract was warm, I believe.
(9) Q: Are casings applied to the G7?
(10) A: No.
(11) Q: Top dressings?
(12) A: Not that I'm aware of.
(13) Q: The KDN process, what was your role
(14) in that?
(15) A: I oversaw the QA program for it.
(16) Q: And what is the KDN process?
(17) A: Process to remove a percentage - a certain
(18) amount of nicotine from burley tobacco.
(19) Q: What percentage did it remove?
(20) A: Somewhere in the 40 to 50 percent range, I
(21) believe.
(22) Q: What was the purpose of that?
(23) A: Goes back to the problem we had with the
(24) burley tobacco. As I said earlier, it's very
(25) harsh. So, we removed a significant amount of the

(1) the tar for elevating the nicotine, however you
(2) would want to look at that.
(3) Q: Why?
(4) A: On the XB project?
(5) Q: (Nodding head affirmatively.)
(6) A: I think over time we had seen smokers move
(7) down in their tar levels, I mean, from a size 40
(8) to 50 milligrams of tar; smokers have moved down
(9) to the full flavor tar levels and even the full
(10) flavor low tar levels. But the move into the
(11) ultra low tar segment was not continuing. It
(12) looked like smokers had reached a plateau on the
(13) FFLT level and were having trouble going any
(14) further down in their tar levels.
(15) So, XB was looking at ways of
(16) trying to move the smokers down into the ultra low
(17) tar category by - again this was not my project,
(18) so I'm - I'm a little fuzzy on the details. But
(19) I think they wanted to have, maybe, FFLT nicotine
(20) levels but ultra low tar tar levels.
(21) Q: Other than looking at adding the
(22) KDN extract to the tobacco to achieve that, do you
(23) know if any other research was undertaken to
(24) achieve that?
(25)

Page 64

(1) A: Other than those two projects? Not that I
(2) recall.
(3) Q: In particular though, XB was to
(4) increase the nicotine but maintain the tar?
(5) A: Or reduce the tar and keep an elevated
(6) level of nicotine.
(7) Q: And other than looking at adding
(8) the KDN extract, do you know of other methods that
(9) were looked at to achieve that result for XB?
(10) A: With XB? Again, not my project. I - I
(11) assume that they looked at grade selection in
(12) tobaccos.
(13) I - I'm pretty sure they also looked at maybe
(14) growing some high nicotine tobaccos.
(15) Q: What is Avaco?
(16) A: What is what?
(17) Q: Avaco? Have you ever heard of
(18) that? A-v-a-c-o.
(19) A: Co?
(20) Q: Yeah. A-v-a-c-o.
(21) A: No.
(22) Q: You never heard of that? Where
(23) does
(24) Reynolds - when you were there, where does
(25) Reynolds grow its tobacco?

Page 65

(1) MS. FORBES: Objection. Assumes
(2) facts not in evidence.
(3) BY MR. MAISTROS:
(4) Q: Did Reynolds grow its own tobacco?
(5) A: Not for commercial use in cigarettes. I
(6) think some experimental tobaccos may have been
(7) grown.
(8) Q: Where did Reynolds -
(9) A: Oh. At Avoca. Is that - Avoca -
(10) Q: I mispronounced it.
(11) A: That's - okay, Avoca. The farm was
(12) Avoca.
(13) Q: Where was that located at?
(14) A: It's on the coast of, I think, North
(15) Carolina.
(16) Q: Did Reynolds experiment with high
(17) nicotine tobacco at the Avoca farm?
(18) MS. FORBES: Objection to the form.
(19) THE WITNESS: I'm not sure.
(20) BY MR. MAISTROS:
(21) Q: Do you know where, if anywhere,
(22) Reynolds experimented with high nicotine tobacco
(23) growing?
(24) MS. FORBES: Objection to the
(25) form.

Page 66

(1) THE WITNESS: No, I don't. I don't
(2) know where.
(3) BY MR. MAISTROS:
(4) Q: What do you base your knowledge on
(5) that they were looking at growing high nicotine
(6) tobacco?
(7) A: I know that there was some - that a source
(8) or some nicotine was needed and that - I think I
(9) vaguely recall that there was some work done and
(10) maybe some contract growing in Brazil, possibly.
(11) That - very fuzzy memory.
(12) Q: Are you familiar enough with
(13) cigarette design to know what factors in cigarette
(14) design go into the affect on nicotine yields?
(15) MS. FORBES: Objection. Overbroad.
(16) MR. MAISTROS: Maybe, depending on
(17) what his answer is.
(18) MS. FORBES: Very.
(19) MR. MAISTROS: I think I can ask
(20) him the scope of his -
(21) THE WITNESS: You're saying
(22) nicotine yield, not nicotine transfer efficiency?
(23) BY MR. MAISTROS:
(24) Q: Right.
(25) A: Well, I mean, certainly. Some of the

Page 67

(1) factors - the ventilation level, the filtration
(2) efficiency -
(3) Q: I'm not asking those for right
(4) now. I'm just want - I'm trying to find out the
(5) scope of your knowledge to see if I'm going to ask
(6) you the next question.
(7) A: Okay.
(8) Q: I'm talking about - are you
(9) familiar enough with cigarette design so I can ask
(10) you questions about what factors affect nicotine
(11) yields?
(12) A: Am I familiar enough with cigarette
(13) design? Yes. I - I mean, yes.
(14) Q: Well, we haven't gotten to that
(15) yet.
(16) A: Okay.
(17) Q: The areas you've talked about -
(18) A: Oh, we haven't gotten into cigarettes yet.
(19) Q: You haven't testified that
(20) you're -
(21) A: Okay.
(22) Q: - An expert or have knowledge on
(23) cigarette design. Do you consider yourself as an
(24) expert -
(25) A: Yes, I do.

Page 68

Page

(1) Q: - on cigarette design?
 (2) A: Yes, I do.
 (3) Q: Okay. My questions will be related
 (4) to nicotine yields as opposed to nicotine transfer
 (5) efficiencies, okay?
 (6) A: Okay.
 (7) Q: I want to ask you the various
 (8) things that affect nicotine yields as opposed to
 (9) nicotine transfer efficiencies that go into the
 (10) design of the cigarette.
 (11) A: Uh-huh.
 (12) Q: Could you just list those for me.
 (13) A: Ventilation level, filtration efficiency,
 (14) certainly types and grades of tobacco, paper
 (15) porosity. I think that's pretty much it.
 (16) Q: How about the burn rate?
 (17) A: It would have some effect, yes.
 (18) Q: And then filtration efficiency, do
 (19) you - or ventilation. Do you take into
 (20) consideration when you say that - the perforated
 (21) paper, is that part of the ventilation?
 (22) A: The perforated filter papers?
 (23) Q: Yes.
 (24) A: Yes.
 (25) Q: And obviously to some extent the

(1) MS. FORBES: Objection to the form.
 (2) THE WITNESS: I believe for high
 (3) levels of ventilation that - that the
 (4) correlation between the two does start to separate
 (5) some. You can get maybe more efficient transfer
 (6) of the nicotine or a yield of the nicotine than
 (7) you would of the tar, but those are not huge
 (8) changes or differences.
 (9) BY MR. MAISTROS:
 (10) Q: Did any of the factors you list
 (11) affect nicotine transfer efficiency differently
 (12) than nicotine yield?
 (13) A: Not that I'm aware of.
 (14) Q: Are there any additional other
 (15) factors that affect nicotine transfer efficiency
 (16) that you didn't say?
 (17) A: No. Not that I can recall.
 (18) Q: Did you personally do any work at
 (19) Reynolds with respect to looking at the issue of
 (20) additives to affect nicotine transfer efficiency?
 (21) A: I probably did at various times, but
 (22) nothing significant.
 (23) Q: Did you personally do any work to
 (24) look at additives that have the effect of -
 (25) affecting nicotine yields?

Page 69

Page

(1) moisture of the tobacco affects nicotine yields.
 (2) MS. FORBES: Objection.
 (3) THE WITNESS: Not significantly.
 (4) BY MR. MAISTROS:
 (5) Q: Did Reynolds look at any of those
 (6) particular items when it was trying to develop
 (7) project XB?
 (8) A: The items that I mentioned would - would
 (9) not independently affect nicotine yield. It would
 (10) also - they would also affect tar yield, of
 (11) course, and to some extent the tobacco.
 (12) The XB had to tease those two
 (13) apart. So, they were not able to rely on some of
 (14) the traditional cigarette configuration items that
 (15) you mentioned.
 (16) Q: Did some of those items affect tar
 (17) yields differently than they affect nicotine
 (18) yields?
 (19) MS. FORBES: Objection to the
 (20) form.
 (21) BY MR. MAISTROS:
 (22) Q: Let me give you an example. Do you
 (23) know if the effect on nicotine is the same as the
 (24) effect on tar, regardless of the amount of
 (25) ventilation of the cigarette?

(1) MS. FORBES: Could you read the
 (2) question back.
 (3) (PREVIOUS QUESTION READ BACK)
 (4) MS. FORBES: That have the effect?
 (5) BY MR. MAISTROS:
 (6) Q: Let me rephrase it.
 (7) Did you do any work with respect to
 (8) looking at additives that could affect nicotine
 (9) yields?
 (10) A: Again, I'm sure I did at various times with
 (11) some of the projects due to the nature of some of
 (12) the projects that I had, but I don't recall if I
 (13) have some of those now.
 (14) Q: Did you do any work that actually
 (15) looked at human smokers to determine the amount of
 (16) nicotine they took in?
 (17) A: Yes.
 (18) Q: What type of work?
 (19) A: Well, the Premier project. That cigarette
 (20) was so novel we knew we were yielding or
 (21) delivering nicotine, but we did not know whether
 (22) it was getting into the bloodstream the way it
 (23) would with a traditional cigarette. So, we did
 (24) have some smokers smoke some of the Premier -
 (25) early Premier prototypes, and we checked the

February 2, 1998

LORILLARD TOBACCO COMPANY

Page 72

(1) nicotine in the blood of those smokers.
 (2) Q: How would you measure that?
 (3) A: Blood was drawn and the blood was analyzed.
 (4) Q: Nicotine can be measured in the
 (5) blood count?
 (6) A: The nicotine was analyzed in the blood. I
 (7) do not know the specifics on how.
 (8) Q: Do you know what cotinine is?
 (9) A: Vaguely.
 (10) Q: What is it?
 (11) A: If I recall, maybe a breakdown product of
 (12) nicotine, I believe.
 (13) Q: Were you involved in the analytical
 (14) study of cotinine in Premier smokers?
 (15) A: I was probably involved.
 (16) Q: Why was Reynolds measuring the
 (17) blood levels of nicotine in Premier smokers or
 (18) prototypes?
 (19) MS. FORBES: Objection. Asked and
 (20) answered.
 (21) BY MR. MAISTROS:
 (22) Q: Other than to find out how much it
 (23) was, why were they doing that?
 (24) A: Again, it was a very novel cigarette with
 (25) a - with an aerosol rather than an a tar mix that

Page 74

(1) Q: In the bloodstream.
 (2) A: I think we were interested to see if we
 (3) were achieving comparable levels as what the
 (4) smokers were getting from their FFLT brands.
 (5) Q: Is that measuring the blood levels
 (6) in the smokers; does that have anything to do with
 (7) measuring the taste qualities of nicotine?
 (8) A: I'm sure it could possibly be related in
 (9) some way.
 (10) Q: Well, I'm still confused as to what
 (11) significance the blood levels of nicotine has to
 (12) levels -
 (13) MS. FORBES: Objection. Asked and
 (14) answered. He's given you his answer.
 (15) THE WITNESS: I've tried that one
 (16) twice, and I'm not sure what else to -
 (17) BY MR. MAISTROS:
 (18) Q: Well, you said that they were
 (19) interested in seeing if it had levels comparable
 (20) to what? A full flavor cigarette or some other
 (21) cigarette?
 (22) A: Uh-huh.
 (23) Q: Why is Reynolds interested in - in
 (24) any event, what the nicotine blood levels are of
 (25) smokers?

Page 73

(1) the smoker was inhaling, and we don't know whether
 (2) nicotine in that form would be bioavailable coming
 (3) in the aerosol form from Premier prototypes as
 (4) opposed to cigarettes.
 (5) Q: Why was Reynolds even interested if
 (6) nicotine would enter the blood system?
 (7) MS. FORBES: Objection to the form.
 (8) THE WITNESS: Well, because Premier
 (9) was a novel cigarette. We wanted to know if it
 (10) would affect the body in pretty much the same way
 (11) as tobacco burning cigarettes.
 (12) BY MR. MAISTROS:
 (13) Q: What type of effects were they
 (14) looking at insofar as nicotine was concerned?
 (15) A: At that stage, in that experiment, the only
 (16) thing that I know is we were looking at the
 (17) nicotine in the bloodstream.
 (18) Q: Was there any specific level that
 (19) Reynolds was looking at to achieve with respect to
 (20) Premier, insofar as the nicotine levels were
 (21) concerned?
 (22) MS. FORBES: Objection. Overbroad.
 (23) THE WITNESS: In the bloodstream or
 (24) the delivery?
 (25) BY MR. MAISTROS:

Page 76

(1) MS. FORBES: Same objection. Asked
 (2) and answered.
 (3) THE WITNESS: I - I don't know.
 (4) Can you try it again? I'm having trouble with
 (5) this one.
 (6) BY MR. MAISTROS:
 (7) Q: Well, I'm trying to figure out -
 (8) MS. FORBES: You don't have to
 (9) speculate.
 (10) MR. MAISTROS: I'm not asking him
 (11) to speculate.
 (12) MS. FORBES: Give him the best
 (13) answer you can give.
 (14) MR. MAISTROS: I'm not looking for
 (15) his best answer. I'm looking for what he recalls
 (16) as being the truth.
 (17) MS. FORBES: Motion to strike
 (18) testimony by counsel.
 (19) BY MR. MAISTROS:
 (20) Q: What was the significance of
 (21) nicotine to Reynolds?
 (22) MS. FORBES: Objection. Asked and
 (23) answered.
 (24) THE WITNESS: That's a pretty broad
 (25) question. What was the significance of nicotine

Page 76

(1) to Reynolds?

(2) **BY MR. MAISTROS:**

(3) **Q:** Insofar as Premier was concerned.

(4) **A:** It was very significant.

(5) **Q:** Why? What role does nicotine play,

(6) as far as Reynolds was concerned, in the Premier

(7) project?

(8) **A:** Nicotine was a compound, something that

(9) smokers traditionally get from cigarettes. We

(10) felt like - that we needed to provide delivered

(11) nicotine in the Premier product. Otherwise it

(12) would be too big of a leap for smokers to make.

(13) **Q:** Did Reynolds have any sort of ideas

(14) as to what range of nicotine was necessary in

(15) Premier?

(16) **A:** We certainly wanted to - our initial

(17) desire and goal was to keep the nicotine level at

(18) about a FFLT level.

(19) **Q:** FFLT. I don't know if we got

(20) that.

(21) **A:** Full flavor low tar.

(22) **Q:** Do you know offhand if that's a

(23) specific nicotine yield number, if you can recall

(24) that?

(25) **A:** It would be a range, but probably a .8 to

(1) those levels in Premier?

(2) **A:** I said that was our goal. We never

(3) actually achieved those levels. We had problems

(4) with the harshness - trying to deliver at those

(5) levels of nicotine.

(6) **Q:** Then what was the actual delivery

(7) level of nicotine in Premier?

(8) **A:** By FTC measurement?

(9) **Q:** Yes.

(10) **A:** In Premier that went to market?

(11) **Q:** Yes.

(12) **A:** It was very low. I don't recall exactly,

(13) but somewhere around maybe .2 milligrams, maybe.

(14) **Q:** How did Reynolds achieve the

(15) delivery of .2 milligrams of nicotine in Premier?

(16) **A:** By using tobacco extracts.

(17) **Q:** Where did they get those tobacco

(18) extracts?

(19) **A:** We made them in-house.

(20) **Q:** These were not tobacco extracts

(21) that were a by-product of the KDN process?

(22) **A:** We - we looked at that early on. It

(23) did - I believe it did not meet our timetable

(24) that we would be able to be up and running with

(25) that process to use that extract. So, at least in

Page 77

(1) 1.0 milligrams.

(2) **Q:** As Premier was being

(3) designed - and it was manufactured eventually,

(4) correct?

(5) **A:** Yes.

(6) **Q:** And sold onto the market?

(7) **A:** Yes.

(8) **Q:** Could Reynolds have delivered any

(9) nicotine yield it wanted in Premier?

(10) **A:** Theoretically.

(11) **MS. FORBES:** Objection.

(12) Overbroad.

(13) **BY MR. MAISTROS:**

(14) **Q:** And it could have delivered a

(15) cigarette with virtually no nicotine or it could

(16) have delivered a cigarette with 2.0 milligram

(17) yield, correct?

(18) **A:** Yes.

(19) **Q:** And do you know how Reynolds

(20) selected .8 to 1 milligram nicotine yield with

(21) Premier?

(22) **A:** Simply because that is where the majority

(23) of smokers on the market were concentrated - that

(24) level of nicotine.

(25) **Q:** Do you know how Reynolds achieved

(1) the - those initial years with Premier we didn't

(2) do much, if anything, with the KDN extract.

(3) **Q:** The Premier cigarette actually

(4) never burned tobacco, did it?

(5) **A:** That's correct.

(6) **Q:** The tobacco was heated in some

(7) fashion, though?

(8) **A:** Yes.

(9) **Q:** Did that heat process release any

(10) nicotine in the tobacco smoke?

(11) **A:** Of course. What nicotine was delivered was

(12) delivered because of heat, but it was heat going

(13) to the extract. Very little of the heat that went

(14) to the surrounding tobacco jacket resulted in the

(15) delivery of nicotine.

(16) **Q:** That's what I meant. That was a

(17) very poor question. When I'm talking about the -

(18) the tobacco in the Premier cigarette, then you

(19) have the nicotine -

(20) **A:** And the extract.

(21) **Q:** - and it's separate from the

(22) tobacco, correct?

(23) **A:** That's correct.

(24) **Q:** And that nicotine is housed. How

(25) was it put in Premier?

February 2, 1998

LORILLARD TOBACCO COMPANY

Page 80

(1) MS. FORBES: Objection.
 (2) Mischaracterizes.
 (3) BY MR. MAISTROS:
 (4) Q: Do you know if the little
 (5) compartment in the Premier that has the little
 (6) balls in it -
 (7) A: Uh-huh.
 (8) Q: Wasn't that sprayed with extract?
 (9) A: Yes.
 (10) Q: And that extract was heated, and
 (11) that's how the the nicotine was delivered to the
 (12) smoker, correct?
 (13) A: Yes.
 (14) Q: Was there any portion of the
 (15) nicotine that was delivered that actually came off
 (16) the tobacco?
 (17) A: Very small, but some. There was some.
 (18) Q: Now, the nicotine extract, as you
 (19) call it, how would you make that?
 (20) A: I think it was a spray dried extract. But
 (21) how did we make it?
 (22) Q: Right.
 (23) A: In some ways it was similar to the G7
 (24) process. You do a lot of extract to tobacco, and
 (25) then at that point it was a - it was a very

Page 81

(1) dilute solution, so it needed to be concentrated.
 (2) That's why it was spray dried.
 (3) Q: Do you know what type of tobacco
 (4) you used to make that extract?
 (5) A: Boy, I should. But I don't recall.
 (6) Q: How did you measure the - I mean,
 (7) in a - in a regular cigarette the nicotine comes
 (8) off the tobacco and is collected on the Cambridge
 (9) filter pad. Was it the same test employed on
 (10) Premier?
 (11) A: Yes. Except we didn't generally use the
 (12) FTC method.
 (13) Q: What did you use?
 (14) A: What we call the 50/30 method, which would
 (15) be a 50 cc puff taken every 30 seconds.
 (16) Q: 50 ccs compares to - I'm really
 (17) not a chemist.
 (18) A: 35 cc.
 (19) Q: So you used about one and a half
 (20) times larger puffs and you -
 (21) A: Twice as frequently.
 (22) Q: And you doubled the amount of
 (23) puffs, correct?
 (24) A: Uh-huh.
 (25) Q: Why did you use that method?

Page 82

(1) A: Okay. Premier was tough to develop because
 (2) the heating system of the carbon was what drove
 (3) that product. So, it was very - it would - it
 (4) would almost go out on a smoking machine with that
 (5) 60 second duration or interval between puffs. And
 (6) yet we found in smoking, in ourselves, that we
 (7) didn't have those problems.
 (8) So, we checked with scientists
 (9) in-house who had done some human mimic smoking
 (10) behavior studies, and we found that smokers
 (11) typically did smoke - rather than the FTC
 (12) method - they typically did smoke with
 (13) 50 cc puff volume and take a puff about every 30
 (14) seconds. So, we thought that that better
 (15) represented human smoking behavior than the FTC
 (16) method did, and we pretty much standardized on
 (17) that smoking procedure.
 (18) Q: Was that just for Premier or - or
 (19) all of Reynolds?
 (20) A: No. Definitely just Premier.
 (21) Q: Was Robinson or Reynolds involved
 (22) in that human smoking test?
 (23) A: Yes.
 (24) Q: Did Robinson and Reynolds know that
 (25) the human smokers actually tended to take bigger

Page 83

(1) puffs and took them more frequently?
 (2) MS. FORBES: Objection to the form.
 (3) THE WITNESS: I assume so, yes.
 (4) BY MR. MAISTROS:
 (5) Q: Was - when you talked about draw
 (6) earlier as being defined by consumers as one thing
 (7) and scientists as another, did your panelists say
 (8) that Premier was hard to draw?
 (9) A: Oh, yes.
 (10) Q: How did the nicotine blood levels
 (11) in smokers of Premier compare to your full flavor
 (12) products?
 (13) A: You know, we did that one study that was
 (14) very early on with some crude prototypes. After
 (15) that, I - I - I don't recall. I don't know.
 (16) Q: Did you do all these studies
 (17) in-house, or did you utilize outside research labs
 (18) for Premier?
 (19) A: On the human studies?
 (20) Q: Yes.
 (21) A: I believe there was in-house and out-house.
 (22) Q: Was there a concern within Reynolds
 (23) when Premier was introduced that it may not be
 (24) viewed as a cigarette?
 (25) MS. FORBES: Objection to the form.

Page 84

(1) THE WITNESS: Yes.
 (2) BY MR. MAISTROS:
 (3) Q: Who expressed that concern?
 (4) A: A large number of people.
 (5) Q: Management?
 (6) A: Certainly.
 (7) Q: Scientists?
 (8) A: Certainly.
 (9) Q: Lawyers?
 (10) A: Certainly.
 (11) Q: Were there discussions as to -
 (12) MS. FORBES: Motion to strike.
 (13) MR. MAISTROS: Pardon me?
 (14) MS. FORBES: You're not going to
 (15) get into attorney-client privilege, okay.
 (16) MR. CLIMACO: Of course he's not.
 (17) MR. MAISTROS: Who said I was?
 (18) BY MR. MAISTROS:
 (19) Q: Who -
 (20) MR. CLIMACO: It was a question.
 (21) He's allowed to answer that.
 (22) MS. FORBES: It's his deposition.
 (23) MR. CLIMACO: It's our deposition.
 (24) BY MR. MAISTROS:
 (25) Q: Who - do you have any specific

(1) considered a cigarette?
 (2) A: I thought you asked the concern that it
 (3) might not be viewed as a cigarette.
 (4) Q: That was. I mean, that was - is
 (5) it your testimony that these people expressed
 (6) their concern that it might not be considered a
 (7) cigarette?
 (8) A: Concerned that it might not be considered a
 (9) cigarette.
 (10) Q: Do you know why they had that
 (11) concern?
 (12) MS. FORBES: Objection. Calls for
 (13) speculation.
 (14) THE WITNESS: The fact that Premier
 (15) did not burn tobacco like a normal cigarette, did
 (16) not burn down like a normal cigarette, had unusual
 (17) components in it that were not in a traditional
 (18) cigarette.
 (19) BY MR. MAISTROS:
 (20) Q: Did you have concern that Premier
 (21) would be viewed as something other than as a
 (22) cigarette?
 (23) A: Yes.
 (24) Q: And what were your concerns based
 (25) on?

Page 85

(1) recollection as to specific people that expressed
 (2) concern that Premier might not be viewed as a
 (3) cigarette?
 (4) MS. FORBES: As a suggestion to
 (5) you -
 (6) MR. MAISTROS: Other than lawyers.
 (7) MS. FORBES: That's - that's the
 (8) only qualification I have.
 (9) BY MR. MAISTROS:
 (10) Q: First we'll take it other than
 (11) lawyers so we'll get through this.
 (12) A: I - what - would you rephrase it.
 (13) Q: What are the names of any people
 (14) that you can recall, sitting here today,
 (15) specifically, the names that expressed concern
 (16) that Premier might not be viewed as a cigarette?
 (17) A: Yes.
 (18) Q: Who?
 (19) A: Bob DiMarco, Bob Lloyd, Dick Kampe.
 (20) Q: Kampe did you say?
 (21) A: Dick Kampe.
 (22) Q: How about Wallace Hayes?
 (23) A: Yes.
 (24) Q: Do you know why these people
 (25) expressed the belief that Premier might not be

(1) A: Same - same things I just mentioned for
 (2) the other people.
 (3) Q: Did anyone ever express the concern
 (4) that the manner in which the nicotine was
 (5) delivered could affect people to interpret Premier
 (6) as something other than a cigarette?
 (7) A: That the manner in which the nicotine was
 (8) delivered?
 (9) Q: Yeah.
 (10) A: I don't know what you mean by that.
 (11) Q: Did anyone express the concern that
 (12) by adding nicotine extract to the cigarette some
 (13) people might view the cigarette as something other
 (14) than a cigarette?
 (15) MS. FORBES: Objection. He told
 (16) you twice that it was not a nicotine extract, that
 (17) it was spray dried tobacco extract. Don't
 (18) misquote his testimony. You've got the Premier
 (19) monograph and you know what it says. Don't do
 (20) that.
 (21) MR. MAISTROS: What bothered you -
 (22) MS. FORBES: That's not fair.
 (23) MR. MAISTROS: What bothered you
 (24) about my question?
 (25) THE WITNESS: It's sprayed dried

February 2, 1998

LORILLARD TOBACCO COMPANY

Page 88

Page 90

(1) extract.

(2) MS. FORBES: It's not a nicotine

(3) extract. It's a tobacco extract. Don't

(4) mischaracterize.

(5) MR. MAISTROS: That distinction

(6) will get you far Marilyn.

(7) MS. FORBES: I'm asking you not to

(8) mischaracterize. Will you please not do that?

(9) MR. MAISTROS: That was - that was

(10) not intended. I just referred to it as the

(11) nicotine extract, obviously, because I'm

(12) interested in nicotine.

(13) BY MR. MAISTROS:

(14) Q: What other qualities of that

(15) extract was Reynolds looking to deliver to the

(16) smoker other than the nicotine .2 milligrams?

(17) A: Taste from the tobacco extract.

(18) Q: Was there any concern expressed at

(19) Reynolds that the tobacco extract that was applied

(20) to the little resin balls in the little container

(21) inside Premier could make the cigarette viewed by

(22) others as something other than the cigarette?

(23) A: There were some concerns about that.

(24) Q: Did anyone express the belief or

(25) view that some people might accuse Reynolds as

(1) A: It's in Winston-Salem near Wake Forest

(2) University.

(3) Q: Do you recall any of the

(4) non-Reynolds attendees at that meeting?

(5) A: No, I don't.

(6) Q: They were just - were they

(7) scientists or government people or both?

(8) A: They were not government people but maybe

(9) people who had previously worked for the

(10) government and could give us some view from the

(11) government perspective.

(12) Q: What was the - to your knowledge,

(13) the primary goal of Premier when it was first

(14) conceived?

(15) A: The primary goal -

(16) MS. FORBES: Objection. Lack of

(17) foundation.

(18) MS. FORBES: - when it was first

(19) conceived?

(20) BY MR. MAISTROS:

(21) Q: Yes.

(22) A: Well, it's - it's kind of hard to say when

(23) Premier itself was conceived because there were so

(24) many previous projects that - that flowed into

(25) it.

Page 89

Page 91

(1) simply marketing a nicotine delivery device?

(2) A: Those concerns were expressed.

(3) Q: Who specifically expressed those

(4) concerns other than lawyers?

(5) A: Again, these kinds of concerns would be

(6) discussed in meetings, and I cannot recall

(7) specific individuals making specific statements.

(8) Q: Did you attend meetings where

(9) Premier was presented to the scientific community?

(10) A: Some of the - you mean out of house?

(11) Q: Yes.

(12) A: No, I don't think I did. Well, there was

(13) one I attended - one.

(14) Q: Where was that?

(15) A: I'm not sure it's exactly what you're

(16) asking, but we had a meeting at Graylyn where we

(17) invited in some people to kind of gauge a reaction

(18) in the scientific community and maybe even in -

(19) with some of the government agencies, what their

(20) reaction might be.

(21) Q: Grayland?

(22) A: Graylyn; G-r-a-y-l-y-n.

(23) Q: Where is that?

(24) A: I'm sorry?

(25) Q: Where is Graylyn located?

(1) Q: Do you know what those were?

(2) A: Yes.

(3) Q: What were they?

(4) A: The - that general area I believe was

(5) called project GP. I'm not totally sure of that,

(6) but I think so, was a project that actually

(7) emanated from executive management and a memo that

(8) was put together that was several pages long

(9) detailing many of the problems that were facing

(10) the industry. And as I said; it was quite an

(11) extensive list. It was several pages long. And

(12) the project then resulted from this memo in that a

(13) - it was taken as a charge to try to develop a

(14) product or a group of products that would address

(15) those problems and challenges of the industry.

(16) Q: Does GP stand for anything?

(17) A: Probably did, but I don't recall.

(18) Q: Do you know which executive

(19) originated this memo?

(20) A: I know what was said. I don't know that it

(21) was fact, but I was told that it was Jerry Long

(22) and his vice president.

(23) Q: What was his title at the time?

(24) A: Well, it was at least president of the

(25) tobacco company. I don't know about some of his

(1) other titles.
 (2) Q: And who was distributing this memo?
 (3) A: There was nobody on the copy list and there
 (4) were no signatures. There were no names on that
 (5) memo.
 (6) Q: Do you have a copy of that memo?
 (7) A: I do not know.
 (8) Q: Do you know approximately when that
 (9) memo was distributed?
 (10) A: 1980, plus or minus a year.
 (11) Q: How did you see it?
 (12) A: Well, eventually I became the project
 (13) manager so I was shown a copy of it.
 (14) Q: And there was no author listed on
 (15) it?
 (16) A: No.
 (17) Q: No recipient?
 (18) A: No.
 (19) Q: No copies, I assume?
 (20) A: No copies.
 (21) Q: Did it have any markings on it like
 (22) secret or -
 (23) A: Oh, yes; secret.
 (24) Q: Did it have a - a secret stamp
 (25) number on it?

(1) A: I don't recall.
 (2) Q: Did you have a secret stamp at
 (3) Reynolds?
 (4) A: Yes.
 (5) Q: What was your number?
 (6) A: I don't recall.
 (7) Q: Were there any instructions to the
 (8) readers of this memo as to what they were to do?
 (9) A: No. There was no instructions to the
 (10) reader.
 (11) Q: Do you have any idea how long this
 (12) memo was?
 (13) A: About three pages, I believe.
 (14) Q: What's the best you can recall that
 (15) the memo said?
 (16) A: Oh, man. Again, I know it spoke to a lot
 (17) of the problems, the smoking health issues, maybe
 (18) even tobacco costs, seasonality of tobacco, the
 (19) fact that tobacco quality varies with weather.
 (20) Just about any kind of problem you could think of
 (21) was in that memo. But certainly the smoking and
 (22) health issues and that theme were the dominant
 (23) ideas in the memo.
 (24) Q: Health from a disease standpoint or
 (25) health from a habitation/addiction standpoint of

(1) cigarettes?
 (2) MS. FORBES: Objection to form.
 (3) THE WITNESS: Disease.
 (4) BY MR. MAISTROS:
 (5) Q: Was there any reference to the
 (6) habit forming/addiction properties of cigarettes?
 (7) A: No. Not that I recall.
 (8) MS. FORBES: Objection. Form.
 (9) BY MR. MAISTROS:
 (10) Q: Was a specific product similar to
 (11) Premier cited in the memo as - as a goal of
 (12) Reynolds?
 (13) A: Oh, no. No. There was nothing that
 (14) specific about product in it.
 (15) Q: And how do you reference this memo
 (16) then as potentially being the origin of Premier?
 (17) A: Well, because with - with that - when
 (18) that memo came down through channels and R & D
 (19) through the - to the vice president Bob DiMarco,
 (20) he put two people on that project, Jack Sensibog
 (21) and his technician Tommy Ridings. And they were
 (22) not given any specific direction except to
 (23) consider the memo, consider the items that were
 (24) listed in the memo, and to develop some product
 (25) concepts. And they then did consider a number of

(1) avenues; looked at several different approaches
 (2) not just the aerosol delivery system that ended up
 (3) being Premier.
 (4) Q: Do you recall any specific health
 (5) concerns that the memo cited?
 (6) A: Specific health concerns? No, I don't.
 (7) Q: Did the memo refer to government
 (8) controlled tobacco industry in any fashion?
 (9) A: Possibly.
 (10) Q: When you left Reynolds did you take
 (11) any documents with you?
 (12) A: A few.
 (13) Q: Do you recall any specific ones?
 (14) A: Do I recall any specific ones? When I left
 (15) Reynolds I was working on second generation
 (16) projects beyond Premier, and I had given two or
 (17) three presentations on those projects and it was
 (18) copies of those presentations that I took with me.
 (19) Q: Slide shows?
 (20) A: Uh-huh. Well, if you consider slides to be
 (21) transparencies.
 (22) Q: Any other documents?
 (23) A: Company phone book, rolodex.
 (24) Q: These second generation Premier
 (25) projects, what were those?

February 2, 1998

PHYLLIS SMALL v.

LORILLARD TOBACCO COMPANY

Page 96

(1) A: Well, we had quite a few. We had a -
 (2) again, we had kind of a broad, wide leeway to work
 (3) on things.
 (4) We looked at some battery operated
 (5) systems; in other words, other ways of heating
 (6) tobacco or extracts. We looked at the Omega
 (7) project, which was a way of trying to use chemical
 (8) energy as opposed to a carbon heat source that was
 (9) in Premier. We were looking at the ways of
 (10) releasing chemical energy to provide heat. We
 (11) looked at reuseable holders for the Premier
 (12) cartridges so there wouldn't be so much cigarette
 (13) thrown away and with least - less costly, we
 (14) looked at actually some nice pipes, smoking pipes,
 (15) that used the Premier capsule technology. And
 (16) then, I mean, we also ended up feeling like we
 (17) were going too far out and we ended up gravitating
 (18) back into more of an intermediate or stop-gap
 (19) product that we called the Beta 90 product.
 (20) Q: That - was that similar to
 (21) Premier?
 (22) A: No. It was more like a traditional
 (23) cigarette, but we did - we did try to make a
 (24) substitute filler. Rather than tobacco filler, we
 (25) made a tobacco-like filler using carbon and using

Page 97

(1) some tobacco extracts, and cut that up so that it
 (2) would be in strands like tobacco would be. You
 (3) could roll the cigarette pretty much using
 (4) traditional manufacturing equipment and, of
 (5) course, there was a heavy dose of aerosol form of
 (6) glycerin in it. So, it was like Premier but it
 (7) worked like a normal cigarette in the way you used
 (8) it and the way it burned back.
 (9) Q: Did it burn all the way back?
 (10) A: Yes.
 (11) Q: Have you heard of J10?
 (12) A: Yes.
 (13) Q: What is J10?
 (14) A: I think that was way even before my time,
 (15) but I believe it was popped popcorn, maybe even
 (16) dusted with some tobacco powder, I think.
 (17) Q: Have you heard of M2000?
 (18) A: I recognize the name but that's all. I
 (19) don't know what that was.
 (20) Q: Did the filler you were using in
 (21) this Beta 90 have a name?
 (22) A: I think we just called it substitute filler
 (23) or alternate filler.
 (24) Q: What years were you actually on
 (25) Premier?

Page 98

(1) A: From the middle of '82 until, I think,
 (2) about '87. I moved into the second generation of
 (3) things.
 (4) MS. FORBES: Jack, when you're at a
 (5) good place, I'd like to take a quick one minute
 (6) break.
 (7) MR. MAISTROS: Go ahead.
 (8) (RECESS TAKEN)
 (9) VIDEOGRAPHER: On record.
 (10) BY MR. MAISTROS:
 (11) Q: Is it your testimony that Premier
 (12) is a direct outgrowth of this memo that went out
 (13) from an executive at Reynolds?
 (14) A: Yes.
 (15) Q: Did that memo say there were any
 (16) specific diseases that were believed to be caused
 (17) by smoke?
 (18) MS. FORBES: Objection. Asked and
 (19) answered.
 (20) THE WITNESS: No. I don't believe
 (21) so.
 (22) BY MR. MAISTROS:
 (23) Q: And I'll go back to it again. Do
 (24) you know what the primary goal of Premier was?
 (25) A: Was to address as many of the smoking and

Page 99

(1) health issues as we could, as well as other
 (2) problems, like emission propensity.
 (3) Q: What specific smoking and health
 (4) issues do you believe Premier addressed?
 (5) A: Are you saying what specifically would be a
 (6) part of the goal or that in retrospect -
 (7) Q: The goal. First the goal.
 (8) A: We were concerned about the - the problems
 (9) that are mentioned on the label, lung cancer,
 (10) emphysema and heart disease.
 (11) Q: Is it your testimony that Premier
 (12) was developed in an effort to reduce or eliminate
 (13) those diseases?
 (14) MS. FORBES: Objection to the form.
 (15) THE WITNESS: Since causation with
 (16) those diseases still has a lot of unknowns with
 (17) regard to what in the smoke might be causing those
 (18) diseases.
 (19) we - we were trying - our goal was to target the
 (20) compounds or at least to eliminate as many of the
 (21) compounds as possible that might be causing those
 (22) diseases.
 (23) BY MR. MAISTROS:
 (24) Q: At the point where Premier was
 (25) developed as a concept - I want to get to the

LORILLARD TOBACCO COMPANY

February 2, 1

Page 100

(1) beginning of the project.

(2) A: Uh-huh.

(3) Q: Was it - did Reynolds have

(4) internal beliefs or opinions that there were

(5) certain compounds in the tobacco that did have a

(6) cause/effect relationship with certain diseases?

(7) MS. FORBES: Objection.

(8) Overbroad. Calls for speculation.

(9) THE WITNESS: We only knew that

(10) there were compounds that were supposed to be

(11) causative with regard to some of those diseases.

(12) Controversial compounds.

(13) BY MR. MAISTROS:

(14) Q: Such as what?

(15) A: Hydrogen cyanide, menzoyathirene, acrolein,
(16) the nitrosamines.

(17) Q: Taken outside of the tobacco

(18) context, did Reynolds believe during this period

(19) of time that the development of Premier with those

(20) compounds did have a cause/effect relationship

(21) with certain diseases?

(22) MS. FORBES: Objection to the

(23) form. When you say did Reynolds believe,

(24) what - what are you asking him?

(25) BY MR. MAISTROS:

Page

(1) specifically. But of things that were in the

(2) smoke and based on the literature, he - he felt

(3) that that was the one that should be addressed

(4) more than others.

(5) Q: Did you ever do any specific

(6) research to determine if any of those compounds

(7) caused any diseases?

(8) A: No.

(9) Q: Do you know what research Reynolds

(10) undertook to determine what, if any, diseases were

(11) by those compounds?

(12) A: Do I know what studies they undertook?

(13) Q: Yes.

(14) A: Okay. I thought I answered that they

(15) didn't - to my knowledge there weren't studies

(16) that related those compounds and whatever diseases

(17) they might cause.

(18) Q: Was the primary goal of Premier to

(19) reduce those compounds of concern?

(20) A: That was a goal.

(21) Q: What was another goal?

(22) MS. FORBES: Objection. Asked and

(23) answered. Talk about ignition propensity and some

(24) other things.

(25) BY MR. MAISTROS:

Page 101

(1) Q: I don't want to get - we can get

(2) to specific people if you want. We'll stay at the

(3) broad questions and maybe eliminate ten thousand

(4) follow-up questions.

(5) Was there internal research at

(6) Reynolds, that you were aware of, at the

(7) development stage of Premier where Reynolds

(8) scientists accepted as a given that those

(9) compounds, separate and apart from their existence

(10) in tobacco, had a cause/effect relationship with

(11) certain diseases?

(12) A: No.

(13) Q: Have you ever reviewed any of Alan

(14) Rodgman memorandums on those compounds?

(15) A: Possibly.

(16) Q: Possibly. Did you ever review any

(17) memos where he looked at the - did a survey of

(18) the literature on the certain compounds and

(19) summarized that literature in a memorandum?

(20) A: I don't recall seeing that. I do recall

(21) talking to Alan Rodgman, and I know - I think he

(22) was concerned about BAP. So, we did try to

(23) address that.

(24) Q: What was his concern about BAP?

(25) A: I don't know specifically or I don't recall

Page 1

(1) Q: What other than ignition propensity

(2) was a goal of Premier?

(3) A: Well, certainly to have a consumer

(4) acceptable product.

(5) Q: Did that happen?

(6) A: Well, I guess the market voted no on that.

(7) Q: Did Reynolds do tests to determine

(8) why it was not accepted by the consumer product?

(9) A: Well, we did focus groups and we had

(10) various forms of feedback.

(11) Q: And what was the primary reason

(12) given?

(13) MS. FORBES: Objection. Lack of

(14) foundation.

(15) THE WITNESS: Taste probably was

(16) the number one problem, you know, lightability,

(17) draw.

(18) BY MR. MAISTROS:

(19) Q: Were you involved in efforts to

(20) improve Premier to make it consumer acceptable?

(21) A: Yes. Uh-huh.

(22) Q: What years?

(23) A: Well, from the first - from the time it

(24) was first reduced to practice as a prototype, my

(25) job was to head the project up and to develop it

Page 104

[1] to the point that would be commercially viable,
[2] and that meant making it commercially acceptable,
[3] and that meant making it cost effective and
[4] machinable and addressing any tobacco issues that
[5] might arise from the smoke chemistry.
[6] Q: Once it was introduced into the
[7] marketplace, did you have any additional effort to
[8] engage in any additional research to make it more
[9] consumer acceptable?
[10] A: Did I personally or -
[11] Q: Did you?
[12] A: No, I did not.
[13] Q: Was Premier advertised as a safer
[14] cigarette?
[15] A: No.
[16] Q: Do you know why not?
[17] MS. FORBES: Objection to the
[18] form.
[19] THE WITNESS: We couldn't make
[20] health claims.
[21] BY MR. MAISTROS:
[22] Q: You couldn't make health claims for
[23] Premier or any cigarette?
[24] A: Certainly not for Premier; I assume not for
[25] any cigarette.

Page 105

[1] Q: Was there any discussion given to
[2] marketing Premier as a safer cigarette?
[3] A: Yes.
[4] Q: And what were the pros and cons
[5] that were discussed?
[6] MS. FORBES: Objection. Overbroad.
[7] THE WITNESS: Well, certainly the
[8] cons of trying to market it as a safer cigarette
[9] would be that it would likely draw the attention
[10] of FDA and fall under FDA jurisdiction. And, of
[11] course, the pros would be that we could let
[12] consumers know the benefits of the product.
[13] BY MR. MAISTROS:
[14] Q: Did you attend any of the marketing
[15] sessions where Premier was rolled out to the
[16] marketplace?
[17] A: Yes.
[18] Q: Who was in charge of that at
[19] Premier - for Premier at Reynolds?
[20] A: Well, Dick Kampe was over marketing at one
[21] time, and then he was put over this project - the
[22] entire project. Since marketing was his area of
[23] expertise, he oversaw a lot of that himself -
[24] that area himself. But he did also have a -
[25] people - I think Jerry McKenna was his name, who

Page 106

[1] were first line responsible or reported to him
[2] directly, that would assume responsibility for the
[3] marketing.
[4] Q: Did you ever see a written question
[5] and answer document that was put together with
[6] respect to Premier when it was rolled out to the
[7] marketplace?
[8] A: I think I'm probably not familiar with what
[9] a question and answer document is.
[10] Q: Did you ever see a document put
[11] together that would set forth potential questions
[12] the consumers or other people might have about
[13] Premier and suggestive answers to those questions?
[14] A: You mean answers that we as a company would
[15] give -
[16] Q: Yes.
[17] A: - or we as individuals would give?
[18] Q: As a company.
[19] A: I vaguely recall that there were documents
[20] like that.
[21] Q: Did you participate in preparing
[22] any of those?
[23] A: Probably.
[24] Q: Did the company have a suggested
[25] answer to the question if it was asked was Premier

Page 107

[1] a safer cigarette?
[2] A: I'm sure that that was one of the questions
[3] that was asked. The specific answer that was
[4] given I don't recall. I assume that information
[5] is out there somewhere.
[6] Q: Did internally Reynolds believe -
[7] void objections.
[8] Did internally you believe Premier
[9] was a safer cigarette?
[10] A: Me personally or people within Reynolds?
[11] Q: You personally.
[12] A: Absolutely.
[13] Q: Did other people within Reynolds
[14] believe it was a safer cigarette?
[15] A: Yes.
[16] Q: Can you give me some examples?
[17] A: Of the people who believe it was a safer
[18] cigarette?
[19] Q: Right.
[20] A: Bob DiMarco, Bob Lloyd, Wally Hayes. I
[21] mean, virtually - virtually everybody.
[22] Q: Why was it safer?
[23] A: We did not burn tobacco. We did not have
[24] the complex soup mixture of compounds that were in
[25] - that are in cigarette smoke. We had a pretty

Page 108

(1) pure aerosol glycerin that was very clean.
 (2) Q: Were you aware of animal tests that
 (3) were done to determine the effects of the Premier
 (4) smoke as compared to any other cigarette?
 (5) A: I know there were some tests, yes.
 (6) Q: Were you in charge of any of those
 (7) tests?
 (8) A: No. Those were conducted by the
 (9) toxicologists.
 (10) Q: Were you aware of the results of
 (11) any of those tests?
 (12) A: No. Not off the top of my head, no.
 (13) Q: Did Reynolds do biological tests on
 (14) Premier smoke?
 (15) A: On the condensate?
 (16) Q: Yes.
 (17) A: I assume we did, but I do not recall any
 (18) specific test.
 (19) Q: The tests that Reynolds did on
 (20) Premier, did they show that there was less
 (21) compounds of concern in the smoke than any typical
 (22) cigarette?
 (23) A: Oh, yes.
 (24) Q: Did anyone express the concern that
 (25) if Reynolds published results that showed that

(1) you are. Come on.
 (2) MR. MAISTROS: I'm threatening
 (3) you.
 (4) BY MR. MAISTROS:
 (5) Q: It published results on Premier,
 (6) did it not?
 (7) A: Yes.
 (8) Q: Smoke condensate?
 (9) A: Yes.
 (10) Q: Aims tests?
 (11) A: Yes.
 (12) Q: All sorts of chromatographic tests?
 (13) A: I think so.
 (14) Q: Beautiful pictures showing how
 (15) clean the filter was?
 (16) A: Yes. Yes.
 (17) Q: Did anyone express the concern at
 (18) Reynolds that if they published these results
 (19) somebody might say, Well, if you're comparing this
 (20) to a regular cigarette aren't you admitting that
 (21) the regular cigarette is not good for you?
 (22) MS. FORBES: Objection. Overbroad.
 (23) Lack of foundation. Assumes facts not in
 (24) evidence.
 (25) THE WITNESS: Yes, I think there

Page

Page 109

(1) there were less compounds of concern in Premier
 (2) that people might jump to the conclusion that its
 (3) regular cigarettes should be of concern to the
 (4) public, because they had more compounds of concern
 (5) than Premier?
 (6) MS. FORBES: Objection. Reynolds
 (7) published these results. Assumes facts not in
 (8) evidence. Lack of foundation. Mischaracterizes.
 (9) MR. MAISTROS: Let me start over.
 (10) THE WITNESS: I had a tougher time
 (11) following that than you had.
 (12) BY MR. MAISTROS:
 (13) Q: Reynolds published the Premier
 (14) monograph, correct?
 (15) A: Yes.
 (16) Q: We can go through all fourteen
 (17) chapters today and tomorrow if you'd like. I'm
 (18) trying to short hand this.
 (19) The Premier monograph published the
 (20) results of the tests on Premier, did it not?
 (21) MS. FORBES: Don't threaten the
 (22) witness.
 (23) MR. MAISTROS: I'm not threatening
 (24) the witness, Marilyn.
 (25) MS. FORBES: With fourteen chapters

(1) were some discussions along that line.
 (2) BY MR. MAISTROS:
 (3) Q: Who expressed those concerns?
 (4) A: I don't remember specifics.
 (5) Q: Well, you were comparing it to a
 (6) cigarette that the average smoker is smoking,
 (7) right?
 (8) A: That's correct.
 (9) Q: Kentucky reference cigarette?
 (10) A: Uh-huh.
 (11) Q: And where did you get that Kentucky
 (12) reference cigarette?
 (13) A: They were a set of cigarettes that were
 (14) made up for test purposes. They're generally
 (15) available. I don't know where they're
 (16) specifically available at.
 (17) Q: And there are sorts of the generic
 (18) type of cigarette that Reynolds used to test its
 (19) other cigarettes, correct?
 (20) A: Yes.
 (21) MS. FORBES: Jack, if you will just
 (22) let him finish his answer, I think the record will
 (23) be a little bit more clear.
 (24) MR. MAISTROS: What didn't you
 (25) finish? Do you want to finish?

Page 11

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 (19) somebody might say, Well, if you're comparing this
 (20) to a regular cigarette aren't you admitting that
 (21) the regular cigarette is not good for you?
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 (23) be a little bit more clear.
 (24) MR. MAISTROS: What didn't you
 (25) finish? Do you want to finish?

Page 112

(1) MS. FORBES: You cut him off on the
(2) last one.
(3) MR. MAISTROS: I'm sorry. What
(4) were you going to say?
(5) THE WITNESS: I think we about
(6) really covered it.
(7) MR. MAISTROS: Okay. We have to
(8) change the tape, if that's okay.
(9) VIDEOGRAPHER: End of tape 1.
(10) Beginning of tape 2. The time is
(11) 12:09 p.m. On record.
(12) BY MR. MAISTROS:
(13) Q: Again, I'll go back to when
(14) Reynolds decided to publish the monograph. People
(15) expressed concern that by publishing these good
(16) results of the chemical constituents in the
(17) Premier smoke, there may be concern out in the
(18) public that it would focus upon the amount of bad
(19) constituents in all the other cigarettes Reynolds
(20) sold, correct?
(21) A: Yes. There were some concerns along that
(22) line.
(23) Q: Now, when you said that you
(24) personally thought that Premier was a safer
(25) cigarette, what was it safer than?

Page 113

(1) A: What was it safer than?
(2) Q: Yes.
(3) A: In my opinion, any traditional tobacco
(4) burning cigarette.
(5) Q: Do you personally have an opinion
(6) on whether or not cigarettes pose a health risk to
(7) the people who smoke them?
(8) A: Yes, I do.
(9) Q: What is your personal opinion?
(10) A: I think that there are health risks with
(11) smoking.
(12) Q: Do you have any specific diseases
(13) or conditions in mind when you say that?
(14) A: Emphysema, heart disease, lung cancer.
(15) Q: Did you hold these beliefs when you
(16) were employed at Reynolds?
(17) A: Yes.
(18) Q: Did others within Reynolds hold
(19) these beliefs when you were employed there?
(20) A: I do not know.
(21) Q: Do you believe that the health
(22) risks - that you personally believe emphysema,
(23) heart disease, lung cancer, that there is a
(24) cause/effect relationship between smoking and
(25) those diseases?

Page 114

(1) A: Yes.
(2) Q: What do you base that opinion on?
(3) A: I guess just nothing specific; just a broad
(4) background knowledge of smoking, of the compounds
(5) that are in cigarette smoke, some of the diseases
(6) associated with those compounds, and then combine
(7) that with life experiences of people I've known
(8) that have smoked.
(9) Q: Other than Premier, do you know
(10) what efforts Reynolds undertook during your years
(11) of employment there to reduce the compounds of
(12) concern in tobacco smoke?
(13) A: Well, I mentioned a couple of projects that
(14) we did; the Beta 90 project, you know, the
(15) chemical battery system. But more traditionally
(16) there were carbon filters - carbon filters.
(17) Now, did you say the numbers of the
(18) compounds or the levels of compounds?
(19) Q: Either.
(20) A: Well, the ventilation and filtration.
(21) Q: Do you know how much Reynolds spent
(22) on the Premier project?
(23) A: At one time I was - I thought it was
(24) approaching a billion dollars, but I think when we
(25) were not successful in the market we cut -

Page 115

(1) cancelled contracts, et cetera. I think it ended
(2) up maybe half a billion dollars and, I think,
(3) still running on that tab. I'm not sure.
(4) Q: Who had overall responsibility for
(5) Premier?
(6) A: Dick Kampe.
(7) Q: Do you know if he, while he was
(8) working on Premier, believed Premier was a safer
(9) cigarette?
(10) MS. FORBES: Objection. Calls for
(11) speculation.
(12) THE WITNESS: I believe that he did
(13) believe that, yes.
(14) BY MR. MAISTROS:
(15) Q: Do you know - did he ever express,
(16) or did you hear him express the belief that there
(17) was health risks associated with smoking regular
(18) cigarettes?
(19) A: I don't recall that.
(20) Q: Did you ever express in a memo,
(21) while you were employed at Reynolds, your belief
(22) that there was health risks related to smoking
(23) cigarettes?
(24) A: No.
(25) Q: Did you ever see anyone employed by

(1) Reynolds put in a memo or other written document
 (2) that they believed there was a - that there are
 (3) health risks related to smoking?
 (4) A: That there were health risks related to
 (5) smoking? Possibly.
 (6) Q: Do you have any specific
 (7) recollection of specific people or memo?
 (8) A: Well, I believe that during my last couple
 (9) of years there that we did open up and say that
 (10) there may be risk factors associated with smoking
 (11) even publicly. But I think that Sam Simmons was
 (12) the in-house scientist who was most knowledgeable
 (13) in that area.
 (14) Q: Did he ever express the belief that
 (15) there were health risks related to smoking?
 (16) A: Risks? Yes, I think so.
 (17) Q: Did Mr. Simmons ever - did you
 (18) ever hear
 (19) Mr. Simmons state that he believed that there was
 (20) a cause/effect relationship between smoking and
 (21) certain diseases?
 (22) A: I don't believe I heard that.
 (23) Q: Did any of your work at Reynolds
 (24) ever cause you to believe that there was a
 (25) cause/effect relationship between smoking and

(1) Q: When you say that you knew,
 (2) understood, and accepted that position, did you
 (3) believe that position?
 (4) A: That there was not a causal relationship
 (5) established between smoking and disease? Yes. At
 (6) that time I did believe that.
 (7) Q: And you don't believe it any
 (8) longer?
 (9) A: Boy. We're playing with words here.
 (10) Q: I don't want to do that. I want to
 (11) be clear on this because I have on my notes - and
 (12) you can correct me, but at some point in time you
 (13) personally came to believe -
 (14) A: Yes.
 (15) Q: - there was a cause/effect
 (16) relationship?
 (17) A: Yes.
 (18) Q: And I don't want to pin you down to
 (19) a month and a year, that's impossible, I'm sure.
 (20) But were you still employed at Reynolds when you
 (21) believed that?
 (22) A: When I came to believe that there was a
 (23) causal relationship not risk - not just risks?
 (24) Q: Right.
 (25) A: All right. Well, then I need to think

(1) certain diseases?
 (2) A: Probably, yes. As we were doing work on
 (3) the Beta 90 project, I did a lot of literature
 (4) review. And looking at that massive documents, I
 (5) think, lead me to have pretty strong feelings
 (6) about cause/effect relationships.
 (7) Q: And would those cause/effect
 (8) beliefs cover emphysema, heart disease, and lung
 (9) cancer?
 (10) A: Yes.
 (11) Q: Do you know if anyone at Reynolds
 (12) was ever counseled against putting down in a memo
 (13) form their beliefs, valid or otherwise, that there
 (14) was a cause/effect relationship between smoking
 (15) and certain diseases?
 (16) A: Counseled against doing that? I don't
 (17) think specifically counseled against doing that.
 (18) I think that we were informed of the smoking
 (19) health issues relative to the legal climate and
 (20) political climate; and given the companies
 (21) position, I think all of us then viewed and
 (22) understood and accepted that position.
 (23) Q: Which position?
 (24) A: That there was not a causal relationship
 (25) between cigarette smoking and disease.

(1) about that for a second because I'm not sure that
 (2) that, you know, was a certain point in time.
 (3) Yes. Okay. I would - I would -
 (4) I was working at Reynolds.
 (5) Q: And your personal belief that there
 (6) was a causal relationship between smoking and
 (7) certain diseases, you did not put that in a memo?
 (8) A: No.
 (9) Q: And you would not have put that in
 (10) a memo, correct?
 (11) A: Correct.
 (12) Q: You say that there was no specific
 (13) direction not to put such beliefs in memos,
 (14) correct?
 (15) A: No specific direction; correct.
 (16) Q: And was it understood by the
 (17) employees, such as yourself, that if they had such
 (18) beliefs, they should not put them in memos?
 (19) A: I think that was understood.
 (20) Q: I'm going to focus on Premier just
 (21) for a minute again and specifically, as far as
 (22) nicotine is concerned, in Premier, okay?
 (23) Was Premier a different cigarette
 (24) from the standpoint of nicotine delivery?
 (25) A: In the amount of nicotine? The form of the

Page 120

Page 122

[1] nicotine? What?
[2] Q: Yes.
[3] A: Or what?
[4] Q: Either.
[5] A: The amount of the nicotine was comparable
[6] to other products on the market. The form of the
[7] nicotine, as far as I know, and I think we did
[8] look at that, I think it was comparable. It was
[9] not riding with all the tar that was in cigarettes
[10] - that's in traditional tobacco burning
[11] cigarettes. Therefore, it was - it was not
[12] masked by that tar, and it was very harsh; and it
[13] was more like delivering nicotine in almost a pure
[14] clean aerosol. It was very - very available, and
[15] we had to do quite a bit of work on trying to make
[16] it more palatable and less harsh.
[17] Q: Was there any internal discussion
[18] at Reynolds that because the nicotine delivery was
[19] comparable to regular cigarettes that the
[20] scientific community might be critical of a
[21] Premier cigarette?
[22] A: Because it delivered nicotine?
[23] Q: Yes.
[24] A: Yes. There were some concerns about that.
[25] Q: Was there discussion -

[1] would you ask that again?
[2] BY MR. MAISTROS:
[3] Q: Well, I want to distinguish - I
[4] mean, you can't go - I guess you could go and buy
[5] some nicotine and eat it, but nobody does that.
[6] A: Uh-huh.
[7] Q: I'm talking about nicotine in the
[8] smoke, through the smoking process; it's been
[9] described as having a bitter taste or a harsh
[10] taste, correct?
[11] A: Uh-huh.
[12] Q: And isn't part of the function of
[13] the tar and the taste function is to mask the
[14] taste of nicotine?
[15] MS. FORBES: Objection to the form.
[16] THE WITNESS: Yes. That would be
[17] part of it.
[18] BY MR. MAISTROS:
[19] Q: As you reduce tar, nicotine kind of
[20] tastes more harsh or more bitter?
[21] A: Well, generally if you reduce tar you're
[22] reducing the nicotine anyway, because they
[23] generally go together.
[24] Q: But at some level if you reduce tar
[25] to a certain level the nicotine taste becomes more

Page 121

Page 123

[1] A: That - by that I mean that nicotine would
[2] be placed in the camp of bad compounds along with
[3] other compounds that were in smoke. So, yes,
[4] there were some concerns about that.
[5] Q: Did Reynolds do anything -
[6] MR. CLIMACO: Let's take a break.
[7] We need a five minute break.
[8] (RECESS TAKEN 12:20 P.M. TO 12:27 P.M.)
[9] VIDEOGRAPHER: On record.
[10] BY MR. MAISTROS:
[11] Q: Nicotine, insofar as Premier was
[12] concerned - you had said something, and I don't
[13] want to misstate what you said, Marilyn, so - you
[14] said to us something about tar masking the taste
[15] of nicotine as a general proposition. Would you
[16] agree, as a general proposition, that nicotine has
[17] a bitter taste?
[18] A: Yes.
[19] Q: And would you agree that unless
[20] certain things are done to the cigarette or the
[21] tobacco that nicotine in and of itself has a
[22] bitter taste in the smoke?
[23] MS. FORBES: Objection to the
[24] form.
[25] THE WITNESS: That nicotine -

[1] prevalent, does it not?
[2] A: I'm not sure that I'd say that the nicotine
[3] taste becomes more prevalent.
[4] Q: Okay. Then - then I did
[5] misunderstand you.
[6] In Premier you didn't have that tar
[7] compound in the smoking process, did you?
[8] A: That's correct.
[9] Q: And I've seen memos or research
[10] that would indicate that - that tar that was
[11] typically in the smoke served a purpose of also
[12] masking the taste of nicotine, correct?
[13] A: Uh-huh.
[14] Q: What did you do - not you, but
[15] Reynolds. What did they do to overcome that
[16] difficulty in Premier?
[17] A: With the nicotine?
[18] Q: Yes.
[19] A: We had to do a number of things trying to
[20] reduce that harshness. We used - we looked at
[21] levulinic acid. We were trying to find acidic
[22] compounds that would have more or less the same
[23] volatility properties as nicotine, so that with
[24] the heat from the heat source the acid would come
[25] across with the nicotine. All right?

(1) We also looked at sugar levels, you
(2) know, various things to try to keep that nicotine
(3) palatable.

(4) Q: Tell me again how the levulinic
(5) acid would help with the nicotine harshness?

(6) A: It has - nicotine is an alkaloid, as you
(7) said, with a very high pH. The levulinic acid
(8) then comes across with - as an acid with a low
(9) pH, and you get a balance and an incredibly
(10) smoothing effect. We were virtually able to take
(11) all of the harshness out of the product, but also
(12) had some kind of the taste property or problems
(13) with some of the - or a lot of those things that
(14) we were trying to work it.

(15) Q: Was levulinic acid used in the
(16) final Premier product?

(17) A: I'm not sure it was.

(18) Q: Was there concern within Reynolds
(19) about the use of levulinic acid in a vacuum -
(20) just the main levulinic acid being used in a
(21) cigarette?

(22) MS. FORBES: Objection to the form.

(23) Vague.

(24) THE WITNESS: No.

(25) BY MR. MAISTROS:

(1) A: The rest program was a way of working with
(2) extracts from tobacco and reapplying them. I
(3) don't - I don't remember that we used that
(4) technology. I don't know that we needed to on the
(5) no-nicotine version of Premier.

(6) Q: Did you ever commercially market a
(7) no-nicotine version of Premier?

(8) A: Oh, no. No.

(9) Q: In the Premier product that was
(10) marketed, was the nicotine in there for taste or
(11) some other purpose?

(12) MS. FORBES: Objection to the form.

(13) THE WITNESS: I would say it was
(14) there for satisfaction.

(15) BY MR. MAISTROS:

(16) Q: What is - is satisfaction
(17) something that's quantifiable?

(18) A: Well, it's quantifiable in that it's always
(19) asked on the sensory tests. So, you do get a
(20) reading on satisfaction, but that - go ahead.

(21) Q: What do you mean by satisfaction?

(22) A: All right. I believe we - we needed
(23) nicotine delivered from Premier to provide
(24) satisfaction to smokers in the form of the
(25) physiological needs that they had for their - for

(1) Q: Were there any health concerns with
(2) respect to using levulinic acid?

(3) A: I don't believe so.

(4) Q: Did levulinic acid affect the
(5) nicotine transfer efficiency of the tobacco or the
(6) tobacco extract?

(7) A: Not that I recall. It could have, but I
(8) don't believe so.

(9) Q: Was the levulinic acid applied to
(10) the tobacco, the filter, the paper, or what - in
(11) the test?

(12) A: Into the aluminum granules.

(13) Q: Did Reynolds measure the transfer
(14) efficiency of the nicotine in the Premier
(15) cigarette?

(16) A: Uh-huh. Yes, we did.

(17) Q: Did Reynolds explore the
(18) possibility of not utilizing nicotine in Premier?

(19) A: The only time we looked at that was when
(20) Philip Morris came out with their no nicotine
(21) product, their tobacco burning product next. And
(22) we were concerned that we could be vulnerable, and
(23) so we did develop a prototype without nicotine; a
(24) Premier type prototype without nicotine.

(25) Q: Part of the rest program?

(1) the nicotine.

(2) Q: What is physiological?

(3) A: What is physiological?

(4) Q: I'm a lawyer. I mean, is it - can
(5) you relate it to common day principles -
(6) physiological, what that word means?

(7) A: I - I think that smokers in smoking
(8) cigarettes develop some dependencies on the
(9) nicotine. Therefore, if you are going to give
(10) them an alternative product, a new product, I
(11) think you do have to provide the nicotine for
(12) them.

(13) Q: So, if they - physiological
(14) relates to a physical need to the nicotine as
(15) opposed to essential taste needs -

(16) A: Yes. Yes.

(17) Q: - for sensory.

(18) A: I think it does both. But believe me, I
(19) think - I think it was important with Premier to
(20) provide that level of nicotine for physical needs
(21) of a smoker.

(22) Q: Were there tests that Reynolds had
(23) the capability of doing on Premier while it was
(24) being researched to determine what those
(25) physiological needs were?

Page 128

Page 130

(1) MS. FORBES: Objection to the
(2) form.
(3) THE WITNESS: A test for those
(4) physiological needs.
(5) MR. MAISTROS: Yeah.
(6) THE WITNESS: One of the tests that
(7) I can recall - this was certainly not a hard
(8) science analytical test, but we did - we set up a
(9) new panel testing procedure that we called "A
(10) Desire For Cigarette Test", DFC test - Desire For
(11) Cigarette. And we were trying to rate among our
(12) smokers how long after smoking a cigarette was it
(13) before they went onto their next cigarette, and
(14) then we tried to draw those comparisons with
(15) Premier prototypes by doing the same kinds of
(16) tests.
(17) BY MR. MAISTROS:
(18) Q: Is that like a ranking of zero to
(19) seventy?
(20) A: (Nodding head.)
(21) Q: With seventy the highest?
(22) A: Well, I think the scale - I'm not sure of
(23) the scales, but I would say zero to ten.
(24) Q: And the desire for the next
(25) cigarette was referring to the physiological

(1) A: There - I don't know of any kind of tests
(2) like that.
(3) Q: Was this DFC developed as part of
(4) Premier or just alongside Premier?
(5) A: It was developed for Premier.
(6) Q: Was it used after Premier?
(7) A: I don't know.
(8) Q: Now we'll get to the documents, but
(9) I - I see reference to that for things other than
(10) Premier. Are you familiar with that?
(11) A: The DFC test -
(12) Q: Yes.
(13) A: - is used for other things besides
(14) Premier.
(15) Q: Okay.
(16) A: Yeah.
(17) MS. FORBES: No. He's asking you a
(18) question.

BY MR. MAISTROS:

(19) Q: You don't know that?
(20) A: I don't know that.
(21) Q: Who came up with DFC?
(22) A: As far as I know, it was Margaret Suvoca
(23) who was the manager of the sensory evaluation
(24) division.
(25)

Page 129

Page 131

(1) desire for the next cigarette?
(2) MS. FORBES: Objection to the
(3) form.
(4) THE WITNESS: Yeah, I believe so.
(5) That would be why somebody wanted their next
(6) cigarette, would be predicated on their
(7) physiological means
(8) for - for it.
(9) BY MR. MAISTROS:
(10) Q: Did you ever do any work on
(11) neurotransmitters in the brain?
(12) A: Oh, gosh, no. That was not my area.
(13) Q: Maybe we will get done today.
(14) Did you ever review any of Dr.
(15) Lippiello's work on that?
(16) A: No. No. No. No.
(17) Q: Were you ever a member of the
(18) analog
(19) committee - nicotine analog committee?
(20) A: No, I was not a member of that.
(21) Q: Other than these subjective desires
(22) for cigarette tests, were there any other type of
(23) what I'll call bench level scientific tests you
(24) can do to determine the physiological need smokers
(25) have for nicotine?

(1) Q: Was she married to anyone at
(2) Reynolds?
(3) A: She has since married someone at Reynolds.
(4) Q: Who was that?
(5) A: She used to be married to a lawyer, but now
(6) it's - he was a manager in the international
(7) R & D area, but I don't recall his name right now.
(8) Q: Was this a - this DFC, was that a
(9) patented process?
(10) A: Patented, no. No. No. It was just an
(11) in-house panel testing technique.
(12) Q: Did Reynolds or anyone at Reynolds
(13) determine if there was a minimum or a threshold
(14) DFC that had to be reached in order for a product
(15) to be successful?
(16) MS. FORBES: Objection to the
(17) form.
(18) THE WITNESS: I think we were using
(19) that as a very rough tool for guidance, because
(20) none of our internal tests would give us
(21) definitive product direction. We had to go to
(22) large external tests for that. So, it was product
(23) guides - was all it was used for.
(24) BY MR. MAISTROS:
(25) Q: I take it from the beginning of

LORILLARD TOBACCO COMPANY

Page 132

(1) Premier to what I'll call putting it out on the
(2) market, for a lack of a better word, that there
(3) were different levels of nicotine experimented
(4) within the Premier product?
(5) A: Certainly, Sure.
(6) Q: Were different DFC tests done on
(7) different levels of nicotine in Premier?
(8) A: I'm sure there probably were, but I don't
(9) know that there was a design study using that as
(10) the only variable. I don't know that.
(11) Q: Did DFC measure anything other than
(12) psychological need for nicotine?
(13) MS. FORBES: Objection to form.
(14) Mischaracterizes.
(15) MR. MAISTROS: Well, it's a
(16) question. How can it mischaracterize it?
(17) THE WITNESS: Did it measure -
(18) MS. FORBES: Same objection.
(19) Mischaracterizes.
(20) MR. MAISTROS: Okay. I'll ask it
(21) with a different tone in my voice.
(22) BY MR. MAISTROS:
(23) Q: Did those DFC use -
(24) MS. FORBES: That's not the point.
(25) It's your - it's your words.

(1) with taste?
(2) A: Nicotine has something to do with taste.
(3) Yes.
(4) Q: How about satisfaction? Does that
(5) have anything to do with taste?
(6) A: Probably. It's one of those terms, like we
(7) talked about withdrawal earlier. Satisfaction can
(8) mean different things to different consumers.
(9) Q: Did you use the word "satisfaction"
(10) when you authored reports at Reynolds?
(11) A: Oh, yes.
(12) Q: What did you use that term to mean?
(13) A: General - it was nicotine satisfaction.
(14) Q: From a physiological standpoint?
(15) A: Yes.
(16) Q: Why didn't you just say
(17) physiological need for nicotine -
(18) MS. FORBES: Objection.
(19) Argumentative.
(20) BY MR. MAISTROS:
(21) Q: - as opposed to satisfaction?
(22) MS. FORBES: Objection.
(23) Argumentative.
(24) MR. MAISTROS: I don't mean to be
(25) argumentative. I'm just - I'm trying to relate

Page 1

Page 133

(1) BY MR. MAISTROS:
(2) Q: - anything other than measuring a
(3) persons psychological - or physiological need for
(4) nicotine?
(5) MS. FORBES: See Jack, that was
(6) your problem; you just misspoke.
(7) MR. MAISTROS: Okay.
(8) BY MR. MAISTROS:
(9) Q: I'll ask you whether -
(10) A: I don't remember on that test. I mean,
(11) we - we did experiment with a lot of different
(12) ballots and panel testing techniques. So, that on
(13) that particular panel testing technique I don't
(14) know if we asked anything else or not.
(15) Q: DFC, the test, was directly related
(16) to the smokers physiological need for nicotine,
(17) correct?
(18) A: In my opinion, yes.
(19) Q: Now, you're referred to
(20) satisfaction as
(21) being - I don't want to misphrase it. Does it
(22) have something to do with the smokers need for -
(23) the physiological need for nicotine?
(24) A: Yes, I think it does. Yes.
(25) Q: And it also has something to do

(1) how you came up with satisfaction.
(2) THE WITNESS: Well, I didn't come
(3) up with satisfaction.
(4) BY MR. MAISTROS:
(5) Q: Okay. Who came up with that?
(6) MS. FORBES: Objection. Calls for
(7) speculation. It's vague. Ambiguous. Calls for
(8) speculation.
(9) BY MR. MAISTROS:
(10) Q: Do you know who came up with
(11) satisfaction?
(12) A: No.
(13) Q: Was it somebody that was employed
(14) at the Reynolds tobacco company?
(15) MS. FORBES: Objection. He said he
(16) doesn't know.
(17) MR. MAISTROS: He said he doesn't
(18) know who it was, Marilyn. That doesn't mean he
(19) doesn't know it was within the universe of
(20) Reynolds employees.
(21) MS. FORBES: Same objection.
(22) MR. MAISTROS: It may be Womble,
(23) Carlyle for all I know.
(24) MS. FORBES: Same objection.
(25) Motion to strike.

Page 1

Page 136

(1) **THE WITNESS:** I don't know the
(2) origin. I don't know who came up with it.
(3) **BY MR. MAISTROS:**
(4) **Q:** Do you know when you first
(5) understood that there was a physiologic need for
(6) nicotine?
(7) **A:** No. I don't - I don't know.
(8) **Q:** Did others within Reynolds
(9) understand that there was a physiological need for
(10) nicotine?
(11) **A:** I - I think so, yes.
(12) **Q:** The positions you've had, those
(13) are - those are differences that are between - I
(14) don't know what the word that's been used to
(15) describe this - there is management side and
(16) there is -
(17) **A:** Technical ladder.
(18) **Q:** Have you always been on a technical
(19) ladder other than advanced product?
(20) **A:** No. I've been on the management side.
(21) **Q:** Oh, you've been on the management
(22) side.
(23) Did others in management believe
(24) that there was a physiological need for nicotine?
(25) **A:** I think so.

Page 137

(1) **Q:** Do you know what their beliefs were
(2) based on.
(3) **MS. FORBES:** Objection to the
(4) form. Calls for speculation.
(5) **THE WITNESS:** No. I don't know.
(6) **BY MR. MAISTROS:**
(7) **Q:** Did everyone at Reynolds use the
(8) words satisfaction when they meant physiological
(9) need for nicotine?
(10) **MS. FORBES:** Objection.
(11) Overbroad. Mischaracterizes.
(12) **BY MR. MAISTROS:**
(13) **Q:** I've seen -
(14) **A:** You said everyone. That's -
(15) **Q:** I've seen a lot of memos at
(16) Reynolds and the word satisfaction appears in
(17) there, and I'm wondering if that was a universally
(18) accepted belief that satisfaction equated with
(19) physiological need for nicotine.
(20) **MS. FORBES:** Same string of
(21) objections.
(22) **THE WITNESS:** I think it - that,
(23) yes, that was understood.
(24) **BY MR. MAISTROS:**
(25) **Q:** Did Reynolds do research to try to

Page 138

(1) determine the minimum amount of satisfaction -
(2) I'm sorry - nicotine required to satisfy a
(3) persons physiological need for nicotine?
(4) **A:** Not that I'm aware of.
(5) **Q:** Did Reynolds undertake research, to
(6) your knowledge, to determine if there was a range
(7) of nicotine required to satisfy a persons
(8) physiologic need for nicotine?
(9) **A:** I'm - I'm not aware of a study like that
(10) per se, no.
(11) **Q:** How did Reynolds come to decide
(12) that Premier would have X amount of nicotine
(13) delivered in it?
(14) **A:** Again, because that was what full-flavored
(15) low tar smokers were getting in nicotine levels.
(16) That was the highest concentration of smokers.
(17) **Q:** That was your best selling
(18) cigarette when you were at Reynolds?
(19) **A:** No. Actually not as - not for us. But
(20) that's what most of the smokers were, in that tar
(21) category.
(22) **Q:** I'm talking generically, smokers
(23) across the country, most of them were
(24) full-flavored low tar?
(25) **A:** Yes.

Page 139

(1) **Q:** Did you ever review any literature
(2) at Reynolds that indicated that smokers
(3) compensated low tar - ultra low smokers
(4) compensated for the low tar low-nicotine in
(5) cigarettes?
(6) **A:** Yes.
(7) **Q:** Did you personally believe that the
(8) typical smoker of ultra lows or low tar cigarettes
(9) compensates to take in more tar and nicotine?
(10) **A:** I believe that they do take in more tar and
(11) nicotine. I don't know that they fully
(12) compensate.
(13) **Q:** Did others at Reynolds believe
(14) that?
(15) **A:** Yes.
(16) **MS. FORBES:** Objection. Calls for
(17) speculation.
(18) **BY MR. MAISTROS:**
(19) **Q:** Did others in management believe
(20) that?
(21) **A:** Yes.
(22) **Q:** How would management above you know
(23) what you were doing on a regular basis?
(24) **A:** Oh, with regard to how do we communicate?
(25) **Q:** Yeah.

Page 140

(1) A: Okay. At which point in my career? On the
(2) Premier project?
(3) Q: Premier, for example.
(4) A: Well, we certainly had lots of meetings and
(5) we did weekly highlight reports.
(6) Q: Were you responsible for doing
(7) those?
(8) A: Yes.
(9) Q: Where would those go - weekly
(10) highlights?
(11) A: Let's see. Mine would go to Bob Lloyd, and
(12) Bob would either then compile those or pass them
(13) along to Bob DiMarco.
(14) Q: Who was above Bob DiMarco during
(15) Premier?
(16) A: Bob DiMarco reported directly to the
(17) president of the tobacco company, who was Jerry
(18) Long, up until the time Jerry Long left.
(19) Q: And when did he leave?
(20) A: I think that was after the - the LBO. So,
(21) I'm not sure.
(22) Q: The '90s, early '90s?
(23) A: No. Jerry Long left before then, but the
(24) leverage buy-out was back in '86 or '87, I
(25) believe.

Page 1.

(1) Q: Were you ever demoted?
(2) A: Never.
(3) Q: And you left voluntarily, correct?
(4) A: Yes.
(5) Q: Have you done any work for Reynolds
(6) since you left?
(7) A: No.
(8) Q: Why did you leave?
(9) A: No easy answer on that. I just grew, I
(10) think, frustrated with a big corporation. Also
(11) tired of fighting this tough technical battle to
(12) make a good, safe cigarette. I mean, truly, there
(13) were a number of factors that lead to an overall
(14) level of frustration.
(15) Q: Did your change in belief with
(16) respect to the causal relationship between smoking
(17) and disease have anything to do with your decision
(18) to leave Reynolds?
(19) A: It was certainly a part of it.
(20) Q: Have you ever seen the very large
(21) strategic plans that were circulating from time to
(22) time at Reynolds?
(23) A: I suppose so. I mean, being in management
(24) I was a part of those planning processes. But
(25) very large plans - I don't remember them

Page 141

(1) Q: Did Mr. Long, to your knowledge,
(2) ever express the opinion that nicotine
(3) satisfaction meant the amount of nicotine required
(4) to satisfy someone's physiological need for
(5) nicotine?
(6) MS. FORBES: Objection to the
(7) form.
(8) THE WITNESS: One more time.
(9) BY MR. MAISTROS:
(10) Q: Did you ever hear Mr. Jerry Long
(11) express the opinion that nicotine satisfaction
(12) meant the amount of nicotine to satisfy someone's
(13) physiological need for nicotine?
(14) A: I have not heard him make a comment like
(15) that.
(16) Q: Do you have any personal knowledge
(17) as to whether or not he believed that?
(18) MS. FORBES: Objection to the
(19) form. Assumes facts not in evidence.
(20) THE WITNESS: I don't know.
(21) BY MR. MAISTROS:
(22) Q: You were promoted several times,
(23) just based on your testimony, in 15 years,
(24) correct?
(25) A: Yes.

Page 1.

(1) specifically.
(2) Q: Did - in your years at Reynolds,
(3) did Reynolds ever have a stand alone division or
(4) group related to developing a "safer cigarette?"
(5) A: A stand alone group within R & D?
(6) Q: Yes.
(7) A: Yes. That was what our group did, yes.
(8) Q: What was the name of that group?
(9) A: It changed a lot with all the
(10) reorganizations, but generally it was advanced
(11) product technologies.
(12) Q: So, advanced product technologies
(13) - did it have as one of its goals -
(14) A: I'm sorry. Wait a minute. Let's see.
(15) There was even an advanced technology product. We
(16) were advanced technology. We started out as new
(17) product technologies; we became advanced
(18) technology products.
(19) Q: What I'm asking is, was it the
(20) overall primary goal of those two groups to
(21) develop a safer cigarette, or was that just
(22) something to do as part of their function?
(23) A: Oh, gosh. It was our thrust, our goal, our
(24) overall goal.
(25) Q: So new products technology and

Page 144

Page 146

(1) advanced technology products both had as the
(2) primary goal to develop a safer cigarette?
(3) A: They weren't two different groups. I'm
(4) saying that was how their name - same
(5) group - name changed.
(6) Q: That group, whatever the name is,
(7) had as its primary goal development of a safer
(8) cigarette?
(9) A: Yes.
(10) Q: When did that first come into
(11) being?
(12) A: The group?
(13) Q: Yeah.
(14) A: It was when I was still in QA. So, around
(15) '81, I believe.
(16) Q: And was that group in existence
(17) when you left in '92?
(18) A: No. I don't think so.
(19) Q: Was there a -
(20) A: Oh. Oh. When I left in '92, hold on. It
(21) had undergone a number of changes, been
(22) fragmented. There was certainly one group that
(23) was still working on the newer Premier or Premier
(24) improvement work.
(25) Q: Who was in charge of that when you

(1) Q: Did you have any involvement in
(2) what is now known as Winston No Bull?
(3) A: Winston No Bull? Certainly nothing
(4) directly, no.
(5) Q: Was that something that was around
(6) in '92 when you were there?
(7) A: I - I know virtually nothing about Winston
(8) No Bull except it's supposed to, according to
(9) advertising, have no added ingredients. That was
(10) a concept that was kicked around, worked on, at
(11) various times while I was there.
(12) MR. MAISTROS: You said you wanted
(13) to - do you mind if we take a lunch break -
(14) short lunch break?
(15) THE WITNESS: That's fine.
(16) MR. MAISTROS: How about 1:30? Is
(17) that okay?
(18) MS. FORBES: Sounds good.
(19) (RECESS TAKEN FROM 12:55 P.M. TO 2:04 P.M.)
(20) VIDEOGRAPHER: On record.
(21) Q: What other areas did you work on -
(22) or projects did you worked on at Reynolds other
(23) than the ones we've talked about this morning?
(24) A: I think at one point or other we did touch
(25) on every one of them that I can think of.

Page 145

Page 147

(1) left?
(2) A: In charge of the Premier work when I left?
(3) Jerry Lawson.
(4) Q: Is there something in the market
(5) today that's a by-product of Premier?
(6) MS. FORBES: Objection to the
(7) form.
(8) THE WITNESS: I - I know there was
(9) a - an improved Premier product that may or may
(10) not be called Eclipse, that may or may not be in
(11) test market. I am no longer involved and have no
(12) knowledge of that.
(13) BY MR. MAISTROS:
(14) Q: Were you ever involved in EW?
(15) A: If you could tell me what it is, I might -
(16) Q: Carbon filter?
(17) A: Yes.
(18) Q: Test market in Oklahoma?
(19) A: I was involved with carbon filter
(20) development. That was one of the projects I was
(21) involved in when we were doing the Beta 90 work.
(22) Now, that grew on and evolved into a product
(23) application in the market.
(24) Q: Winston Select?
(25) A: I believe that was how they used it.

(1) Q: And this area of advanced product
(2) technology or advanced technology products -
(3) A: Right.
(4) Q: - was that exclusively Premier for
(5) you?
(6) A: No. No. That was when we had moved to the
(7) second generation improvements on Premier. So,
(8) that was - see I actually left Premier project a
(9) year or so before it was commercialized to develop
(10) a second generation backup products - follow-up
(11) products. Those I mentioned: reusable holder, and
(12) Omega, chemical energy, pipe, et cetera.
(13) Q: Did any of those make their way
(14) into the marketplace second generation?
(15) A: Oh, no. No.
(16) MS. FORBES: Just for the record.
(17) There are various procedures under the different
(18) cases that we're proceeding with, as far as
(19) confidentiality with proprietary and commercial
(20) business issues. For the purpose of this record,
(21) I'm designating his testimony about second
(22) generation products as confidential proprietary
(23) business information, which would be termed highly
(24) confidential under the various terms of protective
(25) orders. This would include the Premier product.

LORILLARD TOBACCO COMPANY

February 2,

Page 148

Page

(1) But for purposes of the court reporter the
(2) transcript should be so designated in the
(3) procedure book.

BY MR. MAISTROS:

(5) Q: Now, the Premier, as I recall, was
(6) ruled out in '88 - summer of '88?

(7) A: That sounds about right.

(8) Q: So, you were actually off Premier
(9) in '87?

(10) A: About that.

(11) Q: Were you working on the second
(12) generation products until the time you left?

(13) A: Well, yes, except for the fact that we
(14) did - in addition to the second generation
(15) products, we did decide to backfill and try to
(16) come up with products that were not as unique as
(17) Premier, like the Beta 90 product that would turn
(18) back.

(19) Q: Is the Beta 90 a product that
(20) eventually evolved into Eclipse?

(21) A: No. I think Premier evolved into Eclipse.
(22) Beta 90 was essentially abandoned except for parts
(23) of the project, like the carbon filter.

(24) Q: In the Premier product itself -
(25) the actual tobacco that was in the Premier

(1) Q: Did they understand that the
(2) nicotine was habit-forming or addicting to
(3) smokers?

MS. FORBES: Objection.

(5) Overbroad. Vague. Assumes facts not in
(6) evidence. Lack of foundation.

BY MR. MAISTROS:

(8) Q: Okay. Let's take it one at a time
(9) so it's not confused on the record.

(10) In the '80 to '88 time period, did
(11) you believe that nicotine was either habit-forming
(12) or addicting?

(13) A: Did I - did I personally believe it?

(14) Q: Yes.

(15) A: Yes, I do.

(16) Q: And what did you personally
(17) believe - habit-forming or addicting?

(18) A: Well, I would say that the nicotine, I
(19) thought, was addicting and that smoking was
(20) habit-forming.

(21) Q: And when you say the nicotine was
(22) addicting, in a physiological physical sense?

MS. FORBES: Objection to the form.

(24) THE WITNESS: Well, okay.

I - I -

Page 149

Page

(1) cigarette, did that report any taste quality for
(2) the tobacco smoke in the smoking process?

(3) A: The tobacco that was surrounding the - the
(4) capsule -

(5) Q: Yes.

(6) A: - or the tobacco that was inside of the
(7) capsule?

(8) Q: First the tobacco surrounding the
(9) capsule.

(10) A: It imparted a little bit of, what we call,
(11) toasted tobacco taste, which is - it tasted the
(12) way tobacco smells rather than the way tobacco
(13) tastes when it's burned.

(14) Q: Was the primary source of the
(15) physiological impact of the nicotine derived from
(16) the capsules that were sprayed with the tobacco
(17) extract?

(18) MS. FORBES: Objection to the
(19) form.

(20) THE WITNESS: The primary delivery
(21) of nicotine came from the extract in the capsule.

BY MR. MAISTROS:

(23) Q: The people that were working on
(24) Premier - is '80 to '88 a very good time frame?

(25) A: Yes, uh-huh.

BY MR. MAISTROS:

(2) Q: I'll tell you why I asked that.

(3) Let me start over. Ask that question - let me
(4) ask it a different way.

(5) What is your definition of nicotine
(6) being addicting?

(7) A: First of all, I am not a physiologist. So,
(8) I - I am not speaking as one who is that
(9) knowledgeable about biology. But to me, when I say
(10) nicotine is addicting, I think there is a craving
(11) that the body has for nicotine. If denied
(12) nicotine, the craving intensifies; there is a
(13) wanting for the nicotine.

(14) Q: And where did you gain the
(15) knowledge to arrive at that opinion?

(16) A: That would just be - it would be the
(17) general experience of 15 years of working there;
(18) nothing specific that I can cite.

(19) Q: But it arose out of your work at
(20) Reynolds?

(21) A: Yes.

(22) Q: Were you the only one at Reynolds
(23) that believed that nicotine was addicting?

MS. FORBES: Objection.

(25) Overbroad. Calls for speculation.

February 2, 1998

LORILLARD TOBACCO COMPANY

Page 152

(1) THE WITNESS: I don't think so. I
(2) don't think so.

(3) BY MR. MAISTROS:

(4) Q: Did you ever put in a memo form
(5) that you believed nicotine was addicting?

(6) A: No. No.

(7) Q: Why not?

(8) MS. FORBES: Objection.
(9) Argumentative.

(10) BY MR. MAISTROS:

(11) Q: I don't mean to be argumentative.

(12) I mean, in 15 years of research and work on
(13) nicotine, it seems that once in while you had the
(14) opportunity to use the words nicotine and
(15) addiction in the same thought process and put it
(16) in a memo. That never occurred?

(17) MS. FORBES: Motion to strike.
(18) Argumentative.

(19) THE WITNESS: I certainly never
(20) ever had the need to discuss nicotine being
(21) addictive in a memo.

(22) BY MR. MAISTROS:

(23) Q: Were there ever any instructions or
(24) counseling or suggestions that RJR scientists not
(25) use the words nicotine and addiction in a memo?

Page 153

(1) A: I think that was understood. Again, we
(2) knew the company's position on nicotine and
(3) addiction and therefore, yes, I mean, if you can
(4) say, were we counseled in that way? I guess maybe
(5) indirectly, yes.

(6) Q: And the company's position on
(7) nicotine and addiction was different than your own
(8) personal opinion, was it not?

(9) A: I guess so.

(10) Q: The company never expressly stated,
(11) did they, that it was the company's position that
(12) nicotine was addictive?

(13) A: Did they - would you restate that.

(14) Q: During your years of employment at
(15) Reynolds, did Reynolds ever take the position or
(16) the company position that nicotine was addictive?

(17) A: No. Not that I'm aware of.

(18) Q: Were there people within
(19) management, other than yourself, that believed
(20) that nicotine was addictive?

(21) A: Yes.

(22) Q: Were there scientists in the
(23) technical ladder that believed nicotine was
(24) addictive?

(25) A: I don't know.

Page 154

(1) Q: Did the fact that certain
(2) management personnel at Reynolds believed that
(3) nicotine was addictive ever conflict with the
(4) company's position that nicotine was not
(5) addictive?

(6) MS. FORBES: Objection. Lacks
(7) foundation.

(8) THE WITNESS: I believe in your
(9) question you just stated that they conflicted.
(10) So, I'm not sure what you mean.

(11) BY MR. MAISTROS:

(12) Q: All right. I'm asking you, were
(13) there ever conflicts that you saw, with respect to
(14) the fact that the company took the position
(15) nicotine wasn't addictive, yet the management
(16) people believed that it was?

(17) A: No. No conflicts that I was aware of.

(18) MS. FORBES: Objection. Overbroad
(19) and vague.

(20) MR. MAISTROS: About his answer? I
(21) didn't ask a question.

(22) MS. FORBES: I was late on the
(23) trigger. It was an objection to the question, in
(24) case there's confusion.

(25) BY MR. MAISTROS:

Page 155

(1) Q: Did you ever have discussions with
(2) other management personnel with respect to the
(3) issue of whether or not nicotine was addictive?

(4) A: Not per se. Not that I can recall.

(5) Q: Were you familiar with the Surgeon
(6) General's report that made the determination that
(7) nicotine was addictive - '88?

(8) A: I'm sure I probably was, but I don't recall
(9) it now.

(10) Q: As part of your duties, did you
(11) ever have to review the Surgeon General's reports
(12) and findings on smoking?

(13) A: Yes.

(14) Q: Did you review the one on - in '88
(15) that determined that cigarette smoking was
(16) addictive?

(17) A: I - I may have. I don't recall
(18) specifically doing that.

(19) Q: When did you first learn or believe
(20) that nicotine was addictive?

(21) A: Again, I think I answered that; but I don't
(22) believe there was a specific point in time.

(23) Q: Did you know it before you started
(24) working on Premier?

(25) A: Yes. I believed it before I started

Page 156

(1) working on Premier.
 (2) Q: Did you know that Premier had to
 (3) have a certain nicotine content to make Premier
 (4) addicting?
 (5) MS. FORBES: Objection. Assumes
 (6) facts not in evidence. Lacks foundation.
 (7) THE WITNESS: Would you repeat that
 (8) again.

BY MR. MAISTROS:

(9) Q: Did you know that Premier had to
 (10) have a certain nicotine content in order to make
 (11) Premier addicting?

(12) MS. FORBES: Same objections.

(13) THE WITNESS: I believed that
 (14) Premier had to have a certain nicotine delivery to
 (15) be acceptable and satisfying to the target smoker
 (16) group.
 (17)

BY MR. MAISTROS:

(18) Q: And is that satisfying from a
 (19) physiological standpoint?

(20) MS. FORBES: Objection. Vague.

(21) THE WITNESS: Yeah, satisfying from
 (22) a physiologic standpoint, but also other - I
 (23) mean, broader than just that. I mean, the mouth
 (24) feel, throat sensation, lung feel that you get
 (25)

Page

(1) MS. FORBES: Again, objection to
 (2) the form of the question that was before his
 (3) response.

BY MR. MAISTROS:

(4) Q: Were your legal or - I'm
 (5) sorry - was your memorandum reviewed by
 (6) attorneys?

(7) A: Yes.

(8) Q: Did those attorneys ever edit your
 (9) memorandum to delete any reference to nicotine
 (10) being addictive?

(11) A: No.

(12) MS. FORBES: Objection.

BY MR. MAISTROS:

(13) Q: Did you ever here of anyone else's
 (14) memorandum being edited to delete a reference to
 (15) nicotine being addictive?

(16) A: No. Not that I'm aware of.

(17) Q: Did you - when you started doing
 (18) memos at Reynolds, did you immediately start using
 (19) the phrase "satisfaction" to refer to
 (20) physiological effect?

(21) A: Certainly as far back as I can remember. I
 (22) don't know if I immediately upon joining the
 (23) company did that.
 (24)
 (25)

Page 157

(1) from the presence of the nicotine as well.

BY MR. MAISTROS:

(2) Q: The desire for cigarette tests that
 (3) were performed on Premier, as opposed to any other
 (4) cigarette, was that specifically to measure that
 (5) physiological need for nicotine?

(6) A: I think that measuring the physiological
 (7) need for nicotine was a big component of that test
 (8) and perhaps the biggest component. But there are
 (9) some other factors, like how long the taste of a
 (10) cigarette lingers in your mouth will dictate when
 (11) you're ready for your next cigarette.

(12) Q: What is your personal belief as
 (13) to - if you had to rank them in terms of the
 (14) function of nicotine; is it physiological first
 (15) and taste second or taste first and physiological
 (16) second?

(17) A: Physiological first.

(18) Q: Did others in management share your
 (19) views on that point?

(20) A: I believe so.

(21) Q: Did you ever hear anyone in
 (22) management express the belief that nicotine was
 (23) not addictive?

(24) A: No.
 (25)

Page

(1) Q: No one told you to use satisfaction
 (2) to mean addiction, you did that on your own?

(3) MS. FORBES: Objection.

(4) Mischaracterizes.

(5) MR. MAISTROS: I'm sorry. You're
 (6) right.

BY MR. MAISTROS:

(7) Q: No one told you to use satisfaction
 (8) to equate with physiological effect; you did that
 (9) on your own?

(10) MS. FORBES: Objection.

(11) Mischaracterizes.

(12) THE WITNESS: Well, I mean, I
 (13) certainly didn't do it on my own because it was
 (14) broadly and generally done. So, I - I don't know
 (15) where I picked up the - the use of satisfaction
 (16) that way, no.

BY MR. MAISTROS:

(17) Q: Did any of - did your departure
 (18) from Reynolds have anything to do with your
 (19) dissatisfaction of having to use words like
 (20) satisfaction in memos?

(21) MS. FORBES: Objection. Lack of
 (22) evidence.

(23) THE WITNESS: No. I don't think
 (24)
 (25)

Page 160

Page 162

[1] 90.

[2] BY MR. MAISTROS:

[3] Q: Did your departure from Reynolds
[4] have anything to do with the company's marketing
[5] of the cigarette?

[6] A: Only very, very, very slightly.

[7] Q: What aspect of the marketing?

[8] A: Certainly it bothered me that the incidence
[9] of smoking and young people was growing at such a
[10] rapid rate. So, to the extent that we contributed
[11] to any of that, that bothered me and, as I said,
[12] played a very small factor in my decision to
[13] leave.

[14] Q: What was the largest factor? Just
[15] frustration?

[16] A: Well, under the big umbrella of frustration
[17] that would be - frustration would be the biggest
[18] reason, yes.

[19] Q: Is there anything that you could
[20] point to that was the most frustrating part of
[21] your job?

[22] A: Well, that's a tough question. The most
[23] frustrating part was - was definitely the science
[24] of trying to - trying to develop a smoking
[25] product for people that had to be either a perfect

[1] A: Yes.

[2] Q: What kind of people?

[3] A: Well, the people who are at risk maybe have
[4] genetic historys or have other risk factors, blood
[5] pressure, weight, cholesterol, whatever.

[6] Q: Did Reynolds ever attempt to
[7] determine the cause of the - let me start over.

[8] Did you understand that nicotine
[9] has certain cause - causal effects on the
[10] body - nicotine itself?

[11] A: I understand that it does.

[12] Q: Which ones? What's your knowledge
[13] of what effects nicotine has on a body?

[14] A: You mean a scientific sense or just a
[15] smoker - the effects he might say?

[16] Q: First in a scientific sense.

[17] A: I don't know that I know what - what the
[18] effect of nicotine is on the body in a scientific
[19] sense.

[20] Q: By scientific sense, do you include
[21] in there that you don't know the effect on heart
[22] rate?

[23] A: I was going to capture that with, I think,
[24] the effect on the smoker.

[25] Q: Okay. Tell me that. That's what I

Page 161

Page 163

[1] replacement in terms of taste and smoking
[2] properties or, if not a perfect replacement, so
[3] that people could smoke it where we would at least
[4] be able to tell them what the benefits of it
[5] were. And the frustration was that we couldn't do
[6] that. We couldn't make a perfect product, and we
[7] also couldn't tell people - or we couldn't convey
[8] the benefits of the products we were trying to put
[9] to - put in the market.

[10] Q: Based upon your experience and
[11] training at Reynolds is it your belief that the
[12] cigarettes that Reynolds manufactures are an
[13] unsafe product?

[14] MS. FORBES: Objection to the form.

[15] THE WITNESS: Well, that's a very
[16] broad question. I mean, they could - I could say
[17] they're unsafe because they can cause fires or, I
[18] mean -

[19] BY MR. MAISTROS:

[20] Q: From a health standpoint.

[21] MS. FORBES: Same objection.

[22] THE WITNESS: They're certainly
[23] unsafe to some people, in my opinion.

[24] BY MR. MAISTROS:

[25] Q: From a health standpoint?

[1] really wanted to know.

[2] A: The elevation in the heart rate; a certain
[3] dizziness, particularly with certain cigarettes; a
[4] sense of well being; and amelioration of stress.

[5] Q: How does it affect blood pressure?

[6] A: I don't remember.

[7] Q: Do you know if Reynolds undertook
[8] any research to determine if nicotine could be
[9] modified in any fashion to lessen this effect on
[10] heart rate, dizziness, et cetera?

[11] A: I'm not sure. I don't know.

[12] Q: Are you familiar with the analog
[13] program at Reynolds?

[14] A: Just vaguely, peripherally.

[15] Q: What's your knowledge of that?

[16] A: My understanding of it was that they were
[17] looking at other compounds that might be used as
[18] substitutes or surrogates for nicotine.

[19] Q: Why?

[20] A: I - well, I'm not sure of their reasons
[21] for doing it. I, as a - as a person doing -
[22] developing products, was interested in having
[23] something else I could put in the cigarette
[24] besides nicotine.

[25] Q: What would be the benefits of a

(1) product that could replace nicotine?
 (2) MS. FORBES: Objection.
 (3) Overbroad.
 (4) THE WITNESS: Well, we were - in
 (5) much of the work that I was doing with advanced
 (6) products, as with the work of Premier, trying to
 (7) renew the controversial compounds with
 (8) formeldahyde, hydrogen cyanide, et cetera, et
 (9) cetera, et cetera. Well, nicotine was also
 (10) controversial. We obviously did not want to
 (11) eliminate it. But ideally, in an ideal world, on
 (12) maybe the second, third, and fourth generation of
 (13) Premier product, it would have been nice to be
 (14) able to take out the nicotine if we could put
 (15) something else in that would be satisfying.

BY MR. MAISTROS:

(16) Q: Satisfying from a physiological
 (17) standpoint?
 (18) A: Physiological, as well as mouth feel,
 (19) throat feel, lung sensation, taste.
 (20) Q: Did Reynolds ever explore the
 (21) possibility of finding a nicotine substitute that
 (22) did not have a physiological effect?
 (23) MS. FORBES: Objection.
 (24) THE WITNESS: I don't know. I

(1) don't know.
 (2) BY MR. MAISTROS:
 (3) Q: Did you know David Isbister?
 (4) A: Isbister, yes.
 (5) Q: I do that every time.
 (6) What was the extent of your
 (7) knowledge of Dr. Isbister?
 (8) MS. FORBES: And again, he is not a
 (9) doctor.
 (10) THE WITNESS: Well -
 (11) BY MR. MAISTROS:
 (12) Q: David Isbister.
 (13) A: We took a tobacco training program together
 (14) at one time. That was kind of fun. We primed
 (15) tobacco together for a week or so, but -
 (16) Q: Primed?
 (17) A: Picked the leaves.
 (18) But later Dave had - had been
 (19) promoted all the way to, I think, the vice
 (20) president over R & D and maybe something else.
 (21) But I know R & D was reporting to him toward the
 (22) end of his career there.
 (23) Q: Did you ever hear him express the
 (24) belief that nicotine was addictive?
 (25) A: No.

(1) Q: Now, can you distinguish between
 (2) nicotine being addictive and cigarette smoking
 (3) being a habit?
 (4) A: Sure. Uh-huh.
 (5) Q: What's your distinction based on?
 (6) A: Well, to me it's a very important
 (7) distinction. But I think cigarettes probably are
 (8) addictive, but they are maybe mildly to moderately
 (9) addictive.
 (10) But I think, just as importantly,
 (11) cigarettes are extremely habituating because there
 (12) are those - those times when you are smoking not
 (13) because you need nicotine, but because of habit;
 (14) the phone rings or you just finished a meal or
 (15) you've had a cup of coffee and you brush your
 (16) teeth. There are those times when you are smoking
 (17) when it's not because you need nicotine; it's out
 (18) of habit. And it's a - it is a process that you
 (19) go through that you do 20, 30, 40 times a day.
 (20) So, it becomes deeply ingrained into your
 (21) personality.
 (22) So, you combine - in my opinion,
 (23) if you combine slightly to moderately addictive
 (24) with extremely habit-forming, I think that is why
 (25) smoking is so powerful.

(1) Q: Do you believe - do you personally
 (2) believe that cigarettes would ever become
 (3) habit-forming or mildly addictive if they did not
 (4) contain nicotine?
 (5) MS. FORBES: Objection to the
 (6) form.
 (7) THE WITNESS: I haven't thought
 (8) about that, but I guess not.
 (9) BY MR. MAISTROS:
 (10) Q: Not what? I'm sorry.
 (11) A: I guess that if cigarettes did not contain
 (12) nicotine, I don't believe that the nicotine would
 (13) become habit-forming.
 (14) Q: So, another way of stating
 (15) it - tell me if it's fair, that it's the nicotine
 (16) that contributes and, in fact, leads to cigarettes
 (17) becoming habit-forming or mildly addictive.
 (18) MS. FORBES: Objection. Lacks
 (19) foundation.
 (20) THE WITNESS: Yes. I probably
 (21) believe that's true.
 (22) BY MR. MAISTROS:
 (23) Q: Was that belief, to your knowledge,
 (24) shared with others in management at Reynolds?
 (25) MS. FORBES: Objection to the

February 2, 1998

LORILLARD TOBACCO COMPANY

Page 168

(1) form. Overbroad.

(2) **THE WITNESS:** The belief that
(3) nicotine induces the habit-forming?(4) **BY MR. MAISTROS:**(5) **Q:** Yes.(6) **A:** I don't recall ever discussing that with
(7) anyone at Reynolds.(8) **Q:** Did you ever interact with the
(9) marketing people?(10) **A:** Yes.(11) **Q:** For what purposes?(12) **A:** Well, with the Premier product development
(13) effort we - we worked very closely together. The
(14) marketing was very aware of the technology
(15) development.(16) In Premier we were very aware of
(17) the marketing efforts on their part. We held
(18) meetings together. We would discuss the project
(19) as a whole, the manufacturing, the marketing, the
(20) technology development.(21) **Q:** Have you heard of Delta I and Delta
(22) II?(23) **A:** Yes. I was on Delta II.(24) **Q:** What was Delta II?(25) **A:** I'm pretty sure it was Delta II. I know it

Page 170

(1) cigarettes?

(2) **A:** I don't know. I can vaguely recall that
(3) maybe some information showing that first smokers
(4) made their - or smokers made their first product
(5) choices that - you know, some mid-teenage year.
(6) I don't know. I don't recall the
(7) numbers on that.(8) **Q:** Did your decision to leave Reynolds
(9) have anything to do with the number of teenage
(10) smokers in this country?(11) **A:** I think I already answered that smoking
(12) among young people was a factor - a small factor
(13) in me leaving Reynolds.(14) **Q:** Were you aware of any groups or
(15) committees set up to analyze and deal with the
(16) issue of people under the age of 18 smoking
(17) Reynolds cigarettes?(18) **A:** I'm not aware of any.(19) **Q:** At some point in time did Reynolds
(20) develop a corporate policy that addressed smoking
(21) by people under the age of 18?(22) **A:** I'm not - I don't think they did while I
(23) was there, but I'm not sure.(24) **Q:** What is your knowledge of the
(25)

Page 169

(1) wasn't Delta I.

(2) Delta II we were looking for new
(3) product opportunities for smokers of the '90s. I
(4) mean, that was just getting started in '90, and we
(5) were trying to anticipate what the decade might
(6) bring and how we would respond with new cigarette
(7) products.(8) We had a pretty open charter. So
(9) - so, we weren't focused in any particular areas
(10) that I can remember.(11) **Q:** Who was on Delta II?(12) **A:** Doug Shouse headed it up; he was the
(13) marketing person, Diane Burrows from marketing or
(14) marketing research, Margaret Suvoca from R & D,
(15) Howell Gettes from R & D, probably another person
(16) or two I'm forgetting. That's pretty much it;
(17) that might be all.(18) **Q:** What - while you were employed at
(19) Reynolds, what steps did Reynolds take to make
(20) certain that people under 18 wouldn't smoke
(21) cigarettes?(22) **A:** I - I'm not sure that I'm aware of any.(23) **Q:** Did marketing do research to
(24) determine at what age the typical smoker of
(25) Reynolds cigarettes started smoking their first

Page 171

(1) blending techniques employed by Reynolds when you
(2) were there?(3) **MS. FORBES:** Objection.

(4) Overbroad.

(5) **BY MR. MAISTROS:**(6) **Q:** Just trying to get the universe of
(7) what you know about blending.(8) **MS. FORBES:** Same objection.(9) **THE WITNESS:** Okay. You know, a
(10) fair amount. Do you want to know the specifics on
(11) how they do the blending?(12) **BY MR. MAISTROS:**(13) **Q:** I want to know what you know -
(14) just tell me generally what you know about
(15) blending.(16) **MS. FORBES:** Same objection.(17) **THE WITNESS:** I know that we know
(18) from stalk positions on burley and flue-cured
(19) tobacco what grades of the tobacco are represented
(20) on those various stalk positions. I know that we
(21) blend - in putting a blend together we mix those
(22) grades together. We also then mix those tobacco
(23) types together, by that I mean the burley with the
(24) flue-cured. Plus oriental has its grades too.
(25) Plus the oriental and the burley.

(1) And it's just a question of playing
 (2) with the - the grades, the amount of grades, and
 (3) the types of tobaccos. And you can affect taste
 (4) and sensory properties quite significantly by
 (5) doing that.
 (6) Do you also want to know about the
 (7) mechanics of how it's done in the factory or -
 (8) MS. FORBES: Let him -
 (9) BY MR. MAISTROS:
 (10) Q: Let's stop here first.
 (11) Did - while you were employed at
 (12) Reynolds, did Reynolds blend tobacco to achieve a
 (13) range of nicotine deliveries?
 (14) A: We had a target tar level and a target
 (15) nicotine level with that. So, yeah, the - the
 (16) control of the blending process was such to try to
 (17) hit those targets.
 (18) MR. CLIMACO: Mr. Shannon,
 (19) Mrs. Forbes doesn't represent you, does she?
 (20) THE WITNESS: No.
 (21) MR. CLIMACO: Here today?
 (22) THE WITNESS: No.
 (23) MR. CLIMACO: So, if you want to
 (24) say something -
 (25) MS. FORBES: Wait a second. Wait a

(1) second. Wait a second. I said nothing. I don't
 (2) know what that little outburst was.
 (3) MR. CLIMACO: You said it before.
 (4) You've said it four times already. When he has
 (5) wanted to say something you've cut him off and
 (6) say, "He's asking the questions, you answer the
 (7) questions."
 (8) MS. FORBES: I'm sorry. I have no
 (9) idea what you're talking about.
 (10) MR. CLIMACO: Well, it's on the
 (11) record, so the record will show it.
 (12) MS. FORBES: The record reflects
 (13) that I have said absolutely nothing, and I don't
 (14) know what you're talking about.
 (15) MR. CLIMACO: You said it this
 (16) morning; you just said it again.
 (17) MS. FORBES: What did I just say?
 (18) MR. CLIMACO: When he attempted to
 (19) say something on his own, you held him back.
 (20) MS. FORBES: No, I did not.
 (21) MR. CLIMACO: Yes, you did.
 (22) MS. FORBES: I specifically deny
 (23) that.
 (24) MR. CLIMACO: Well, you did.
 (25) MS. FORBES: That's a gross

(1) misrepresentation.
 (2) MR. CLIMACO: It's not a gross
 (3) misrepresentation.
 (4) MS. FORBES: I'm taking notes.
 (5) MR. CLIMACO: It's the truth.
 (6) MS. FORBES: Oh, that's absolutely
 (7) outrageous.
 (8) MR. CLIMACO: No, it isn't. And
 (9) this morning your remark was to him "He asked the
 (10) question" before even my partner Mr. Maistros -
 (11) "you answer them."
 (12) MS. FORBES: The point is, he's
 (13) asking questions - that's Mr. Maistros' job.
 (14) That's right. His job is to answer it. And
 (15) I'm -
 (16) MR. CLIMACO: If he wants to make a
 (17) comment, he can.
 (18) MS. FORBES: No. No. No.
 (19) MR. CLIMACO: Yes, he can.
 (20) MS. FORBES: Oh, of course -
 (21) MR. CLIMACO: You don't represent
 (22) him.
 (23) MS. FORBES: Of course he can make
 (24) a comment.
 (25) MR. CLIMACO: Right.

(1) MS. FORBES: My only point is that
 (2) it's clear with an overbroad question like that.
 (3) And when a witness starts asking where else should
 (4) I go, that the record would be clear if the
 (5) question was coming from the examiner. That's my
 (6) only condition.
 (7) MR. CLIMACO: That's your opinion.
 (8) That's not our opinion. We believe in letting the
 (9) witness answer the question.
 (10) MS. FORBES: Let's not argue.
 (11) Let's just get on.
 (12) MR. CLIMACO: Right.
 (13) BY MR. MAISTROS:
 (14) Q: Insofar as blending is concerned,
 (15) is it your testimony that Reynolds blended tobacco
 (16) to obtain a certain range of nicotine deliveries?
 (17) A: Yes.
 (18) Q: Did Reynolds also design the
 (19) cigarettes, that is, the filtration system and
 (20) ventilation system and the rod system to deliver
 (21) a certain nicotine delivery?
 (22) MS. FORBES: Objection.
 (23) Overbroad. Vague.
 (24) THE WITNESS: To hit a certain tar
 (25) and nicotine target.

BY MR. MAISTROS:

- (1) Q: Was the nicotine yield a design
(2) specification of Reynolds cigarettes?
(3) A: I'm - I'm not sure that that terminology
(4) applies at Reynolds. I - there were not design
(5) specifications. There may have been quality
(6) control standards or something.
(7) Q: Was the nicotine yield a quality
(8) control standard with Reynolds cigarettes?
(9) A: They were certainly monitored and tested,
(10) and the data was available. Whether or not they
(11) would ship or not ship if the product was out of
(12) those specs, I don't know.
(13) Q: Was there - was there any
(14) component of the cigarette that was tested more
(15) often or as frequently as the nicotine content and
(16) the yield of the cigarette?
(17) MS. FORBES: Objection.
(18) Overbroad. Do you mean as to - as to QA in your
(19) previous question?
(20) BY MR. MAISTROS:
(21) Q: Do you understand my question?
(22) A: Well, that's a good point. Whether - are
(23) you talking about QA which was a massive testing
(24) or the R & D analytical testing which was much
(25)

- (1) not sure I can tell you those points.
(2) MR. MAISTROS: What's this lack of
(3) foundation. You say that every time. Why don't
(4) you just stop interrupting me and have a standing
(5) objection lack of foundation. Is it your key that
(6) he should be concerned about the question,
(7) Marilyn?
(8) MS. FORBES: Motion to strike.
(9) Argumentative by counsel.
(10) MR. MAISTROS: Just say objection.
(11) We'll - I will stipulate your objections cover
(12) any conceivable objection in the world. Then you
(13) won't have to go on the record.
(14) MS. FORBES: As your partner just
(15) said, you ask the questions the way you want; I'll
(16) object the way I want.
(17) MR. MAISTROS: I'm going to object
(18) to any further speaking objections.
(19) BY MR. MAISTROS:
(20) Q: Tell me at what points in the
(21) process the nicotine is measured.
(22) MS. FORBES: Objection.
(23) Overbroad.
(24) BY MR. MAISTROS:
(25) Q: To the best that you can recall.

- (1) smaller scale.
(2) Q: Cigarettes, let's take. You - you
(3) go down to a factory on Monday morning and you're
(4) making a pack of Winstons, okay. From beginning
(5) to end, is there any component of that cigarette
(6) that's tested more frequently than the nicotine
(7) content and/or make up of the tobacco, insofar as
(8) nicotine is concerned?
(9) A: Well, there are things like pressure
(10) drop -
(11) MS. FORBES: Same objection.
(12) Overbroad. Vague.
(13) THE WITNESS: There are things like
(14) pressure drop that I think now can be done
(15) in-line, and the machine tests literally every
(16) cigarette, I believe.
(17) BY MR. MAISTROS:
(18) Q: Tell me at what points in the
(19) manufacturing process, from buying the tobacco to
(20) ending up on the supermarket shelves, the nicotine
(21) content is tested.
(22) A: Oh, my gosh.
(23) MS. FORBES: Objection.
(24) Overbroad. Lack of foundation.
(25) THE WITNESS: I'm not sure - I'm

- (1) A: I really don't feel qualified to speak to
(2) all of that. That's a lot of different areas.
(3) It would be tested as it's bought
(4) off the - off of the auction floor, so to speak,
(5) or at least sampled and tested there. All right.
(6) That's when it's still in leaf form. And, of
(7) course, you're doing that for all the different
(8) tobaccos, the flue-cureds, the burleys, and all
(9) those grades. When those get brought into the
(10) factory to be blended - I don't know if it's
(11) sampled there and tested for nicotine or not.
(12) Really, I am uncomfortable trying
(13) to answer this question because they're - in
(14) fact, I think they're even in process controls now
(15) to look at nicotine, or at least that was being
(16) developed at one time. So, I don't know if that's
(17) been - you know, that would be continuous
(18) testing. I don't know if those things exist or
(19) not now.
(20) Q: When - let's take, for example, a
(21) Winston Full Flavor. Would that have been the
(22) best selling cigarette when you were there, the
(23) Winston Ultra Low Full Flavored?
(24) A: Winston Full Flavored, not the Ultra Low.
(25) Q: Winston Full Flavor. At the

(1) beginning of that process, how does Reynolds know
 (2) that at the end
 (3) when - when it puts the pack on the shelves in
 (4) the supermarket, that it's going to have a tar
 (5) ratio of X and a nicotine ratio of Y?
 (6) **MS. FORBES:** Do you mean ratio or
 (7) do you mean FTC?
 (8) **MR. MAISTROS:** FTC testing result.
 (9) Thank you.
 (10) **THE WITNESS:** Okay. Well, again,
 (11) the blend is going to control the tobacco part of
 (12) the structure. And with all this complex grading
 (13) system, they can put together a blend that is
 (14) reasonably - reasonably consistent for an
 (15) agricultural product from day in and day out. On
 (16) top of that, the papers have - you've got the
 (17) structural components of the cigarettes. You've
 (18) got the paper, you've got the cellulose acetate
 (19) filter tag, you've got the plug wrap, the filter
 (20) wrap, the ventilation. All of those have very
 (21) tight controls. They're manufactured products
 (22) that are produced under very tight controls.
 (23) So, when that cigarette is put
 (24) together, you do almost always end up delivering
 (25) the tar and nicotine levels that it's designed to

(1) **A:** Right.
 (2) **Q:** But from that - other than that,
 (3) is there any other limitation on the amount of
 (4) nicotine by FTC test method that a cigarette can
 (5) deliver?
 (6) **A:** All right. If you don't have anything to
 (7) remove the nicotine like filter or ventilation
 (8) then, yeah, I mean, the amount of nicotine that
 (9) you start with in tobacco is going to - in the
 (10) tobacco is pretty much going to govern how much is
 (11) going to be delivered to the pad. And the only
 (12) practical upper limit on that is how much nicotine
 (13) is in the tobacco to start with.
 (14) **Q:** Did Reynolds explore ways to
 (15) increase the nicotine delivery of its
 (16) reconstituted tobacco?
 (17) **A:** I don't think so. Not that I'm aware of.
 (18) **Q:** Was the nicotine control program in
 (19) effect when you were at Reynolds?
 (20) **A:** The nicotine control program? I don't know
 (21) what that program is.
 (22) **Q:** Do you know what project XGT was?
 (23) **A:** I certainly did. I don't - I think - did
 (24) that one grow out of XB? I'm fuzzy on that one.
 (25) **MR. MAISTROS:** Let's take a short

(1) deliver.
 (2) **BY MR. MAISTROS:**
 (3) **Q:** But before the cigarette first
 (4) makes its way into the factory, Reynolds knows
 (5) what the nicotine by FTC test method is going to
 (6) be when that cigarette ends up out of that
 (7) factory?
 (8) **MS. FORBES:** Objection to the form.
 (9) **THE WITNESS:** It knows the nicotine
 (10) content of that tobacco. And if you know how that
 (11) cigarette's going to be put together, then, yes,
 (12) you know what the nicotine - what the level of
 (13) nicotine is going to deliver. Yes, you do.
 (14) **BY MR. MAISTROS:**
 (15) **Q:** And Reynolds could, if it wanted
 (16) to, design a cigarette with any nicotine yield by
 (17) FTC test method?
 (18) **MS. FORBES:** Objection.
 (19) Overbroad.
 (20) **THE WITNESS:** Well, obviously,
 (21) they're practical limits.
 (22) **BY MR. MAISTROS:**
 (23) **Q:** Practical being, can only have so
 (24) much depending upon the quantity of nicotine in
 (25) the tobacco as the maximum?

(1) break.
 (2) (RECESS TAKEN AT 2:46 PM. TO 2:55 P.M.)
 (3) VIDEOGRAPHER: On record.
 (4) **BY MR. MAISTROS:**
 (5) **Q:** Did you ever smoke?
 (6) **A:** Yes.
 (7) **Q:** What years?
 (8) **A:** I think I started a couple years after I
 (9) joined the company, maybe a year or so. So, that
 (10) would be about '79 maybe. And then I quit a few
 (11) months before I left.
 (12) **Q:** Why did you quit?
 (13) **A:** It was - it was starting to bother me. I
 (14) was feeling the irritation in my lungs, the
 (15) inflammation, developing some smoker cough,
 (16) shortness of breath.
 (17) **Q:** Did you have difficulty quitting?
 (18) **A:** No. I - well, yes, of course. But I - I
 (19) kind of broke it down into something that I
 (20) thought was manageable. I - I've used Nicoret gum
 (21) for a while and was able to quit, you know, partly
 (22) using that. But, you know, it still - it was a
 (23) difficult process.
 (24) **Q:** Did you have withdrawal symptoms?
 (25) **A:** Not that I would call withdrawal symptoms.

Page 184

(1) But, as I said, I was using sources of nicotine.
(2) Q: Why? Why were you using sources of
(3) nicotine?
(4) A: Because I felt like I would have a craving
(5) for the nicotine. I felt like I could satisfy
(6) that with a gum product while I was breaking the
(7) habit of smoking. And then I could wean myself
(8) off of the nicotine.
(9) Q: Did - to your knowledge did
(10) Reynolds ever study withdrawal effects related to
(11) nicotine withdrawal?
(12) A: Not that I'm aware of.
(13) Q: Had you heard of the concept of
(14) weaning yourself off nicotine?
(15) A: Have I heard of that? I may have heard
(16) that term. I don't know where I would have heard
(17) it.
(18) Q: Did Reynolds ever explore, to your
(19) knowledge, marketing nicotine withdrawal products?
(20) A: I think we - we just very briefly maybe
(21) considered some smoking sensation products, but I
(22) believe that we looked at the business and felt
(23) that it wasn't large enough to be meaningful to
(24) our business.
(25) Q: Do you believe you were addicted to

Page 186

(1) group that you talked about earlier. We did visit
(2) some factories and Nabisco people just to
(3) interview smokers. I don't know if that's what
(4) you're getting at or not.
(5) BY MR. MAISTROS:
(6) Q: Did you - were you aware of anyone
(7) else at Reynolds that did research for Nabisco as
(8) opposed to for Reynolds?
(9) MS. FORBES: Objection. Overbroad.
(10) THE WITNESS: I think there were
(11) some people who were helping Nabisco to - to
(12) develop its fat substitute product, I think; that
(13) was pretty secretive. But there was some
(14) toxicological assistance, I think, being provided
(15) to Nabisco.
(16) BY MR. MAISTROS:
(17) Q: Was Nabisco providing any
(18) assistance to Reynolds in the cigarette
(19) manufacturing -
(20) MS. FORBES: Objection to the
(21) form.
(22) BY MR. MAISTROS:
(23) Q: - business?
(24) A: Not that I know of.
(25) Q: Was Nabisco involved in the

Page 185

(1) cigarettes?
(2) MS. FORBES: Objection to form.
(3) THE WITNESS: I guess I feel that I
(4) had some need - physiological need for the
(5) cigarettes. And, yes, I guess that would be some
(6) level of addiction to the cigarettes.
(7) BY MR. MAISTROS:
(8) Q: Did Reynolds sponsor any smoking
(9) cessation programs?
(10) A: Not - not that I'm aware of.
(11) Q: Did Reynolds insurance pay for your
(12) smoking withdrawal Nicoret gum?
(13) A: I don't think so.
(14) Q: At any of these meetings you refer
(15) to where topics were discussed on cigarette
(16) design, marketing, and et cetera, did Nabisco
(17) employees attend any of those meetings?
(18) A: Meetings where we were talking about the
(19) marketing?
(20) Q: Anything having to do with
(21) cigarettes. Did Nabisco involve itself in that
(22) aspect of Reynolds business?
(23) MS. FORBES: Objection.
(24) THE WITNESS: No. I don't - I
(25) don't think so. I know it's part of that Delta II

Page 187

(1) development of Premier?
(2) A: No. Not that I know of.
(3) Q: The - was Nabisco kept apprised of
(4) what was going on with Premier?
(5) A: No. Not to my knowledge.
(6) Q: Did you ever do any research or
(7) aware of any research conducted at Reynolds
(8) related to the use of acetaldehyde?
(9) A: The use of acetaldehyde - it's in
(10) cigarette smoke. So, we did things to try to
(11) reduce it. But it sounded like your question was
(12) whether we looked at it as an additive.
(13) Q: Or as a - a processing aid in any
(14) fashion?
(15) A: Not that I recall.
(16) Q: Were you aware of the list that
(17) Reynolds submitted each year to Health and Human
(18) Services of the additives and processing aids used
(19) to make tobacco?
(20) A: I knew there was a list. I never looked at
(21) it.
(22) Q: Are you aware of a group called the
(23) Blood Chemistry Group?
(24) A: No. Not that I recall.
(25) Q: The blood chemistry program?

(1) A: No. I don't think so.
 (2) Q: How about nicotine pharmacology?
 (3) A: Uh-huh. Yes.
 (4) Q: What group was that?
 (5) A: There was a large project of an area of
 (6) work under John Reynolds when John Reynolds was in
 (7) that area. John Reynolds eventually took my place
 (8) when I left Reynolds, but when he was still doing
 (9) the - the nicotine pharmacology work that you're
 (10) referring to fell under his direction.
 (11) Q: What was the focus of that group?
 (12) A: I have - I had a little trouble
 (13) understanding why they - they spent a lot of
 (14) money. They farmed out a lot of research to
 (15) consulting groups. They were looking at nicotine
 (16) physiology in the body, and they were interested
 (17) in the blood brain barrier and things that were -
 (18) were pretty aceturic for certainly any of my needs
 (19) and product development. So, I did not follow it
 (20) closely and barely understood it, if at all.
 (21) Q: Have you heard of the smoke
 (22) component dose group or program?
 (23) A: Smoke component dose program. I don't
 (24) think so.
 (25) Q: Have you heard of the concept

(1) deliver different levels of nicotine depending
 (2) upon where the puff is taken in the cigarette
 (3) smoking process, that is, the first puff as
 (4) opposed to the tenth puff?
 (5) A: Yes.
 (6) Q: Did Premier follow that pattern?
 (7) A: No. It was a different pattern.
 (8) Q: And how did the pattern -
 (9) A: With traditional tobacco burning cigarettes
 (10) more nicotine is delivered as the rod is burned
 (11) down. In other words, later puffs will deliver
 (12) more nicotine than earlier puffs.
 (13) With Premier, with the heat
 (14) profile, the energy from the heat source would
 (15) tend to peak in the middle of puffs, and that was
 (16) when you would get the highest deliveries of
 (17) nicotine. So, it would be a bell-shaped curve of
 (18) delivery for Premier.
 (19) Q: Was that viewed as a problem by
 (20) Reynolds?
 (21) A: Oh, yes.
 (22) Q: Why?
 (23) A: The smoker wasn't used to that. Those peak
 (24) puffs could be real tough. You could get a lot of
 (25) nicotine or flavor or aerosol and then it started

(1) called nicotine migration?
 (2) A: Yes.
 (3) Q: What's that?
 (4) A: In a blend of tobacco - in a - in the
 (5) cigarette rod where you have tobacco pieces lying
 (6) next to each other, the question has been raised
 (7) whether nicotine can migrate from one strand of
 (8) tobacco to another. There's also been nicotine
 (9) migration questions raised in other ways nicotine
 (10) could migrate, for example, to the carbon filter,
 (11) whether nicotine could migrate in Premier from the
 (12) substrate to the fuel source.
 (13) Q: Did Premier test on the FTC testing
 (14) machine the same way that a regular route model
 (15) cigarette would test on a machine?
 (16) MS. FORBES: Objection.
 (17) BY MR. MAISTROS:
 (18) Q: Are the same mechanics involved?
 (19) A: When it was done, it was done under the
 (20) same regimen as a 35 cc puff, two seconds long,
 (21) every minute. But, of course, you didn't light
 (22) the cigarette the same way, and it didn't burn
 (23) down to a designated puff length. So, there were
 (24) certain differences.
 (25) Q: Did - does the normal cigarette

(1) dying out, and with the traditional cigarette,
 (2) when the cigarette runs out you put it out in an
 (3) ashtray; you knew you were through. But with
 (4) Premier it would just kind of gradually start
 (5) dying, and there weren't any cues for the smoker.
 (6) None were visible cues that he was used to.
 (7) Q: Was Reynolds concerned with
 (8) delivering a certain dose of nicotine in the
 (9) Premier that was comparable to its regular
 (10) cigarettes?
 (11) MS. FORBES: Objection. Form.
 (12) THE WITNESS: I think I said
 (13) earlier, we were trying to deliver a level of
 (14) nicotine in the range of an FFLT cigarette.
 (15) BY MR. MAISTROS:
 (16) Q: Was it - was Reynolds also trying
 (17) to deliver, though, a constant delivery of
 (18) nicotine that was comparable to a regular
 (19) cigarette?
 (20) A: On a puff-by-puff basis?
 (21) Q: Yes.
 (22) MS. FORBES: Objection to the form.
 (23) THE WITNESS: I wouldn't say that
 (24) we were so much trying to match the puff-by-puff
 (25) deliveries of a tobacco burning cigarette, but we

(1) were certainly trying to smooth out that curve.
(2) **BY MR. MAISTROS:**
(3) **Q:** Was there any success in the
(4) efforts to smooth out that curve?
(5) **A:** Yes. Some.
(6) **Q:** Through what means?
(7) **A:** It's been a while, and - and some of these
(8) things I'm not sure we ever implemented, but
(9) certainly the things that we did to - to throttle
(10) back the heat source. So, instead of getting a
(11) bolus of energy in those middle puffs, anything
(12) that would control that would also smooth out the
(13) delivery of the nicotine. The amount of nicotine,
(14) to start with, could affect how much would come
(15) over in those middle puffs. Things like the
(16) levulinic acid or use of sugars that
(17) wouldn't - wouldn't change the puff-by-puff
(18) delivery that could make those peak puffs more
(19) tolerable -
(20) **Q:** I'm sorry.
(21) **A:** No. Those were the important things, but
(22) there were probably others too.
(23) **Q:** Does sugar affect the puff profiles
(24) of a regular cigarette. I mean, puff profile in
(25) talking about the bell-curve versus the flatter

(1) immediate effect.
(2) **BY MR. MAISTROS:**
(3) **Q:** Did you reverse engineer Philip
(4) Morris cigarettes?
(5) **A:** Uh-huh. I personally didn't, but, yes,
(6) Reynolds did.
(7) **Q:** And did you determine - or did
(8) Reynolds determine if Philip Morris was attempting
(9) to create more free nicotine through affecting
(10) pH?
(11) **MS. FORBES:** Objection to the form.
(12) **THE WITNESS:** That - those were
(13) conclusions that we drew based on what we reverse
(14) engineered on the PM product.
(15) **BY MR. MAISTROS:**
(16) **Q:** Did you ever interact with any
(17) other tobacco companies or employees?
(18) **A:** Not tobacco - tobacco suppliers like
(19) Kimberly Clark, but not other tobacco companies,
(20) no.
(21) **Q:** Did Kimberly Clark ever supply
(22) Reynolds a cigarette paper that could affect the
(23) nicotine transfer efficiency of tobacco?
(24) **A:** No. Not that I'm aware of.
(25) **Q:** Did Reynolds ever explore

(1) line of nicotine levels?
(2) **A:** Now, in a traditional cigarette neither is
(3) flat. It builds up toward the back puffs. Does
(4) sugar affect that? I don't think so, but I
(5) certainly don't recall that for sure.
(6) **Q:** Have you heard of the bolus theory
(7) of nicotine delivery?
(8) **A:** Bolus?
(9) **Q:** Yes.
(10) **A:** No.
(11) **Q:** No?
(12) **A:** No.
(13) **Q:** Do you know if Reynolds ever
(14) studied whether or not the speed with which the
(15) nicotine was delivered to the body affected a
(16) person's decision to continue smoking a particular
(17) type of cigarette?
(18) **A:** The speed with which the nicotine was
(19) delivered?
(20) **MS. FORBES:** Objection to the form.
(21) **THE WITNESS:** I'm not sure how you
(22) would alter or could alter the speed with which
(23) the nicotine would be delivered, unless you're
(24) talking about altering the pH and the amount of
(25) free nicotine, which was believed to have a more

(1) purchasing paper that had an affect on nicotine
(2) deliveries?
(3) **MS. FORBES:** Objection to the form.
(4) **THE WITNESS:** Only to the extent
(5) that it would also affect tar deliveries. But,
(6) yes, some of the paper voracities.
(7) **MR. MAISTROS:** Let me show you some
(8) documents. And if you could bear with me Marilyn,
(9) I'm going to eliminate some of these. So, I may
(10) be fumbling with some of them. I'm sure nobody
(11) will fight with me on that.
(12) **THE WITNESS:** A walk down memory
(13) lane.
(14) **MR. MAISTROS:** Pardon?
(15) **THE WITNESS:** It looks like a walk
(16) down memory lane.
(17) **MR. MAISTROS:** Nightmare on Elm
(18) Street probably.
(19) **BY MR. MAISTROS:**
(20) **Q:** I'm going to hand you, first of
(21) all, two in a row, because they're similar and
(22) appear to be different drafts of the same
(23) document, in fact, an expanded version of the same
(24) document. And rather than ask you all about one
(25) the first time and then hand you the second one,

Page 196

Page 18

(1) I'd like you to look at them in conjunction,

(2) okay?

(3) A: Uh-huh.

(4) MR. MAISTROS: And we'll mark these

(5) Shannon 1 and 2.

(6) (PLAINTIFF'S EXHIBITS NUMBERED 1 AND 2

(7) WERE MARKED FOR IDENTIFICATION)

(8) THE WITNESS: Do you want me to

(9) read it?

(10) MS. FORBES: Yeah.

(11) BY MR. MAISTROS:

(12) Q: No. I just want you to, first of

(13) all, take a look at it and tell me if you - both

(14) of them and tell me if you can tell by looking at

(15) the titles and generally at them if you've seen

(16) them before.

(17) A: The first one, no. I do not believe I've

(18) seen that before. And I do not believe I've seen

(19) the second one before. I will say that Alan

(20) Rodgman, as folklore went within R & D, had done

(21) some other work on smoking and health, but I was

(22) not aware that it even had been documented.

(23) MS. FORBES: And for the record,

(24) Mr. Shannon, you are entitled to review these

(25) documents in their entirety if you need to respond

(1) research.

(2) Q: And did you have an opportunity to

(3) interact with him?

(4) A: Very - very little.

(5) Q: Did - were you aware of the

(6) reputation he had within Reynolds as a scientist?

(7) A: Yes.

(8) Q: Was it a good reputation?

(9) A: Yes. Outstanding reputation.

(10) Q: And he was well - he was well

(11) respected at Reynolds?

(12) A: Absolutely.

(13) Q: On the first document shown in

(14) Number 1, on the first page in the bottom

(15) paragraph, do you see where it says "Memorandum"?

(16) A: Yes.

(17) Q: The author of this is said to be

(18) Alan Rodgman, and handwritten date on the right

(19) says December 21st, 1962, and on the typed part it

(20) says RDM 1963 - Number 4 it looks like to me, but

(21) it's not that clear. In the first

(22) sentence - first two sentences of that paragraph

(23) at the bottom, do you see where he says:

(24) (Reading)

(25) Although the major part of

Page 197

Page 19

(1) to the questions.

(2) THE WITNESS: Okay.

(3) BY MR. MAISTROS:

(4) Q: Any document I ask you about you

(5) can tell me if you'd like to read the whole thing

(6) before answering any of my questions. But rather

(7) than spend a lot of time on documents you don't

(8) have knowledge of, I'm going to preface each one

(9) with a question. Have you seen it before, okay?

(10) Now -

(11) A: Are we not through with this?

(12) Q: No.

(13) A: Not done with this.

(14) Q: What was your understanding of

(15) Rodgman's position with the company in the '63

(16) time frame?

(17) A: That was before I joined the company, so, I

(18) don't know much about his position at that time

(19) except I was aware that he had done work on the

(20) smoking and health issues, or something, in the

(21) early part of his career. So, I assumed that

(22) would probably be what he was doing in the '60s.

(23) Q: And he was in the company, though,

(24) when you joined in '77?

(25) A: Yes, he was. He was the director of

(1) the sales of this company consists

(2) of cigarettes, what the company

(3) sells is cigarette smoke. This

(4) company, therefore, should be

(5) concerned with the physiological

(6) properties and composition of

(7) cigarette smoke.

(8) First of all, do you agree with the

(9) statement that the company sells cigarette smoke?

(10) A: It seems a little simplistic to me. I'm

(11) not sure that I would - I'm not sure I'd disagree

(12) with it, but I'm not sure that I would say that

(13) that is what we sell.

(14) Q: In 19 - well, when you joined the

(15) company to the time you left, what did you view as

(16) the primary product that the company sold?

(17) A: Cigarettes.

(18) Q: And what was the most important

(19) factor that dictated how many cigarettes the

(20) company sold?

(21) MS. FORBES: Objection.

(22) Overbroad, Vague.

(23) THE WITNESS: The most important

(24) single factor in how many single cigarettes we

(25) would sell?

Page 200

(1) I - I don't know.
(2) **BY MR. MAISTROS:**
(3) **Q:** You joined in '77. Did you ever
(4) hear - I'm sorry, let's back up. In 1977 did
(5) Reynolds have a biological testing facility on
(6) site?
(7) **A:** No.
(8) **Q:** Did they ever?
(9) **A:** I understand that they did have the mouse
(10) house, which was in the '50s or so.
(11) **Q:** And how long was the mouse house in
(12) existence?
(13) **MS. FORBES:** Objection.
(14) **THE WITNESS:** I don't know.
(15) **BY MR. MAISTROS:**
(16) **Q:** Did you hear why the mouse house
(17) ceased to be in existence?
(18) **A:** I only heard that that entire program and
(19) area of work was eliminated.
(20) **Q:** And did you hear why?
(21) **A:** Only that - and this was rumor, that the
(22) work was - that the work could be turning up some
(23) problems.
(24) **Q:** And were these rumors that emanated
(25) from Reynolds?

Page 201

(1) **A:** They were within the wall, so to speak, of
(2) Reynolds.
(3) **Q:** Do you know anyone that
(4) specifically could have spread that rumor?
(5) **A:** No, I do not.
(6) **Q:** Did you ever do any independent
(7) research on your own to determine if there was any
(8) truth to that rumor?
(9) **A:** No, I did not.
(10) **Q:** Did you ever talk to anyone that
(11) worked in the mouse house?
(12) **A:** Actually, we ended up bringing some of them
(13) back into the company. Sam Simmons was one, and I
(14) believe there was another one or two that I can't
(15) remember right now. So, yes, I - I ended up
(16) talking to Sam Simmons.
(17) **Q:** Did you know Tony Colucci?
(18) **A:** Yes. Yes. Yes. Yes.
(19) **Q:** What was his reputation with
(20) Reynolds as a scientist?
(21) **A:** I am not sure. I - I'm not - I'm not
(22) sure that he was extremely highly regarded, but
(23) I'm also not sure that I ever heard anything
(24) negative about his scientific ability.
(25) **Q:** Did you know Gary Huber?

Page 202

(1) **A:** No.
(2) **Q:** Did you know Joel Bungardner?
(3) **A:** No.
(4) **Q:** What specific problems did you hear
(5) were - could possibly develop from the mouse
(6) house?
(7) **A:** Nothing specific.
(8) **MS. FORBES:** Objection to the
(9) form.
(10) **BY MR. MAISTROS:**
(11) **Q:** Was the mouse house doing health
(12) research related to smoking?
(13) **MS. FORBES:** Objection to the form.
(14) **THE WITNESS:** I think it was doing
(15) some kind of biological research, but I don't even
(16) know that it was health research.
(17) **BY MR. MAISTROS:**
(18) **Q:** Biological research related to
(19) cigarette smoking?
(20) **A:** That's my understanding.
(21) **Q:** Did you ever have discussions with
(22) Dr. Rodgman concerning his beliefs as to what
(23) Reynolds was selling?
(24) **A:** No.
(25) **Q:** Did you ever have discussions with

Page 203

(1) Dr. Rodgman concerning his beliefs with respect to
(2) health risks related to smoking?
(3) **A:** Yes.
(4) **Q:** And what did - what were those
(5) discussions?
(6) **A:** We brought him in when we were trying to
(7) form
(8) an - a - an approach to handling the - the Beta
(9) 90 project. In other words, we were trying to
(10) find what we should address on some of these
(11) smoking and health issues.
(12) So, we - as an expert, we had
(13) brought in Alan Rodgman asking to give us a talk
(14) to our group, and then we asked him specifically
(15) what he considered the most important compounds or
(16) areas to target in cigarette smoke to - in order
(17) to try to effectively address the smoking and
(18) health issues.
(19) **Q:** And what compounds did he say?
(20) **A:** Almost certainly, I'm sure he said
(21) the - the BAP. Other than that, I don't recall.
(22) I was just kind of surprised that he was still so
(23) interested in the BAP.
(24) **Q:** And did he acknowledge the health
(25) risks related to BAP?

LORILLARD TOBACCO COMPANY

February 2, 19

Page 204

(1) MS. FORBES: Objection to the form.
 (2) THE WITNESS: No. He was only
 (3) acknowledging - I think that one - some of the
 (4) strongest links were being made were with the
 (5) BAP.
 (6) BY MR. MAISTROS:
 (7) Q: Links to what?
 (8) A: Where B - all right. BAP, I think, had
 (9) been linked to disease, and I guess that was a
 (10) pretty strong case. And so that's why he was
 (11) probably most concerned about the BAP that was in
 (12) cigarette smoke.
 (13) Q: Did you know Dr. Teague?
 (14) A: Not well, but, yes.
 (15) Q: Were you aware of his reputation
 (16) within Reynolds as a scientist?
 (17) A: Yes.
 (18) Q: What was his reputation?
 (19) A: I don't - I don't think it was good. But
 (20) I was there towards the end of his career. So, I
 (21) may be biased by catching the tail end of his
 (22) career, but I do not believe his reputation was
 (23) good as a scientist.
 (24) Q: Did you ever have any discussions
 (25) with Teague concerning his views on the smoking -

Page 2

(1) THE WITNESS: I do not believe that
 (2) I've ever seen this or read this.
 (3) BY MR. MAISTROS:
 (4) Q: On the first page of this
 (5) memorandum, Dr. Teague states in the first
 (6) paragraph on the second line: (Reading)?
 (7) Tobacco products, uniquely,
 (8) contain and deliver nicotine,
 (9) a potent drug with a variety
 (10) of physiological effects.
 (11) Did you agree with that statement?
 (12) MS. FORBES: Objection. Document
 (13) speaks for itself. Lack of foundation.
 (14) THE WITNESS: Yes.
 (15) BY MR. MAISTROS:
 (16) Q: And then it goes on - you can read
 (17) the sentence in between: (Reading)?
 (18) Related alkaloids, and
 (19) probably other compounds,
 (20) with desired physiological
 (21) effects are also present in
 (22) tobacco and/or its smoke.
 (23) Nicotine is known to be a
 (24) habit-forming alkaloid, hence
 (25) the confirmed user of tobacco

Page 205

(1) A: No.
 (2) Q: - and health issue?
 (3) A: No.
 (4) Q: I'll show you Exhibit 3.
 (5) (PLAINTIFF'S EXHIBIT NUMBER 3 WAS MARKED FOR
 (6) IDENTIFICATION)
 (7) BY MR. MAISTROS:
 (8) Q: It's a memo. The front says
 (9) "Research Planning Memorandum on The Nature Of
 (10) the Tobacco Business And The Crucial Role of
 (11) Nicotine Therein." The last page has got Claude
 (12) Teague's signature of April 14th, 1972.
 (13) I'll ask you, first of all, if
 (14) you've ever seen this document before?
 (15) MS. FORBES: I'm sorry. The copy
 (16) that I have does not -
 (17) MR. MAISTROS: Here. Let me see
 (18) Marilyn.
 (19) MS. FORBES: Is this an addendum?
 (20) MR. MAISTROS: Let me see.
 (21) MS. FORBES: Okay. His
 (22) signature's -
 (23) MR. MAISTROS: I'm sorry. That's
 (24) stuck.
 (25) MS. FORBES: Okay.

Page 20

(1) products is primarily seeking
 (2) the physiological "satisfaction"
 (3) derived from nicotine and perhaps
 (4) other active compounds.
 (5) Do you agree with that last
 (6) sentence?
 (7) MS. FORBES: Objection. Document
 (8) speaks for itself.
 (9) MR. MAISTROS: I'm not talking
 (10) about the document.
 (11) MS. FORBES: Same objection.
 (12) THE WITNESS: I do not know that
 (13) nicotine is known to be a habit-forming alkaloid.
 (14) BY MR. MAISTROS:
 (15) Q: And you don't know that because of
 (16) what?
 (17) A: I don't know that nicotine, as a single
 (18) compound in a pristine state, has been tested to
 (19) show that it is a habit-forming alkaloid.
 (20) Q: You earlier testified - you
 (21) believed that nicotine was addictive.
 (22) A: Yes.
 (23) Q: You just don't know if it's an
 (24) alkaloid?
 (25) A: No. I don't know. The way this is worded

Page 208

(1) here is that - maybe I'm splitting hairs - as a
(2) semantics.
(3) I'm saying nicotine in a cigarette
(4) form, as it's diluted in the cigarette, I do.
(5) believe is all those things I said. Here he's
(6) making a comment of nicotine as a chemical
(7) compound saying "it" as a chemical compound is a
(8) habit-forming alkaloid. Whether it's in a
(9) cigarette or not, that's the way I'm reading this
(10) statement. That's what I'm saying to you. I
(11) don't know, if I had a bottle of nicotine here,
(12) whether it would be habit-forming if I just kept
(13) tasting it or whatever.
(14) Q: Okay. Do you agree with his
(15) statement that: (Reading)
(16) The confirmed user of
(17) tobacco products is
(18) primarily seeking the
(19) physiological satisfaction
(20) derived from nicotine and
(21) perhaps other active compounds?
(22) MS. FORBES: Objection to form.
(23) THE WITNESS: Yes, I think I do.
(24) Yes.
(25) BY MR. MAISTRO:

Page 209

(1) Q: Down below a little further it
(2) says: (Reading)
(3) Thus a tobacco product is,
(4) in essence, a vehicle for
(5) delivery of nicotine designed
(6) to deliver the nicotine in a
(7) generally acceptable and
(8) attractive form.
(9) Do you agree with that?
(10) A: Yes.
(11) MS. FORBES: Objection to form.
(12) BY MR. MAISTROS:
(13) Q: And that - and that was true
(14) during the whole period of time you worked at
(15) Reynolds?
(16) MS. FORBES: Objection. Overbroad.
(17) THE WITNESS: The whole period of
(18) time that I worked there - I'm not sure in my
(19) first year or two there that I was knowledgeable
(20) enough to know this. But, yes, I came, for the
(21) most part of my career, to believe this.
(22) BY MR. MAISTROS:
(23) Q: And then he goes on to say:
(24) (Reading)
(25) Our industry is then

Page 210

(1) based upon design,
(2) manufacture and sale of
(3) attractive dosage forms
(4) of nicotine, and our
(5) company's position in
(6) our industry is determined
(7) by our ability to produce
(8) dosage forms of nicotine
(9) which have more overall
(10) value, tangible or
(11) intangible, to the consumer
(12) than those of our competitors.
(13) Do you agree with that sentence, as
(14) long as it is?
(15) A: I can't believe this was ever put in
(16) writing. Oh, my gosh.
(17) Q: I'm sorry. What - what did you
(18) say?
(19) A: I'm mumbling to myself.
(20) Q: You can't believe what? I'm
(21) sorry. I just didn't hear you.
(22) A: I'm just mumbling to myself. I never saw
(23) anything like this put in writing. That surprises
(24) me.
(25) Q: Why does it surprise you?

Page 211

(1) A: Because we just certainly never put
(2) anything in writing like this during my time with
(3) the company.
(4) Q: Did you believe this to be true?
(5) MS. FORBES: Objection.
(6) Overbroad.
(7) BY MR. MAISTROS:
(8) Q: These are all qualified with your
(9) previous qualifier that after a couple of years
(10) you believed it.
(11) MS. FORBES: You mean this sentence
(12) (indicating). Is that your question right now?
(13) BY MR. MAISTROS:
(14) Q: You can forget the memo right now.
(15) I can take the memo away and just ask you the
(16) question if you believe the following sentence, if
(17) that will make it simpler.
(18) A: I don't know. I - I have trouble agreeing
(19) with the way he's saying some of these things.
(20) So, for me to just give a blanket endorsement that
(21) I agree with some of the these sentences, I -
(22) some of these sentences of what I'm reading here
(23) bothers me.
(24) Q: Okay. Tell me what portions bother
(25) you.

LORILLARD TOBACCO COMPANY

February 2, 19

Page 212

Page

(1) A: Its says: (Reading)
 (2) Our industry is then
 (3) based upon the design,
 (4) manufacture, and sale of
 (5) attractive doses - dosage
 (6) forms of nicotine.
 (7) Well, you know, it's not just
 (8) that. It was the entire smoking experience that
 (9) - that the industry is trying to sell, and
 (10) that's a heck of a lot more than just - just
 (11) dosages of nicotine.
 (12) Q: Would nicotine have a primary role
 (13) in the amount of cigarettes Reynolds sold?
 (14) MS. FORBES: Objection to the form.
 (15) THE WITNESS: Yes. I think I
 (16) understand what you're asking. Yes.
 (17) BY MR. MAISTROS:
 (18) Q: Would you rank anything above
 (19) nicotine as being a contributing factor in the
 (20) amount of cigarettes that Reynolds sold?
 (21) MS. FORBES: Objection to the
 (22) form.
 (23) THE WITNESS: No. I guess not.
 (24) BY MR. MAISTROS:
 (25) Q: Is there anything else about that

(1) Q: '72.
 (2) A: '72?
 (3) Q: On the last page.
 (4) A: Okay.
 (5) Q: Is Dr. Teague, as far as you can
 (6) tell, using the word "satisfaction" in the manner
 (7) of which you described it earlier in your
 (8) testimony today?
 (9) MS. FORBES: Objection. Documents
 (10) speaks for itself. Requires speculation.
 (11) THE WITNESS: Yes.
 (12) MR. MAISTROS: Okay. We
 (13) can - I'll eliminate all these questions if
 (14) you'll stipulate on behalf of Reynolds -
 (15) MS. FORBES: You'll eliminate all
 (16) these questions?
 (17) MR. MAISTROS: - this document
 (18) speaks for itself. Related to this document, if
 (19) you stipulate it speaks for itself, I'll agree to
 (20) that. Want to do that one?
 (21) MS. FORBES: Just keep asking your
 (22) questions; I'll keep objecting.
 (23) MR. MAISTROS: We can avoid it. I
 (24) won't ask any more questions on this document if
 (25) Reynolds will stipulate this document speaks for

Page 213

Page

(1) sentence that bothers you?
 (2) A: Well: (Reading)
 (3) Our ability to produce
 (4) dosage forms of nicotine
 (5) which have more overall
 (6) value to the consumer than
 (7) our competitors.
 (8) It's - it's just very foreign
 (9) terminology that I'm not comfortable with. So,
 (10) I - I'm not sure that - although I - I can't
 (11) say that it's untrue, it - it's just too far out
 (12) for me to endorse that kind of statement.
 (13) Q: In the last paragraph he says:
 (14) (Reading)
 (15) The habituated user of
 (16) tobacco products is said
 (17) to derive satisfaction from
 (18) nicotine.
 (19) You would agree with that, wouldn't
 (20) you?
 (21) A: Yes.
 (22) Q: Are you surprised to see that in
 (23) writing?
 (24) A: I'm surprised it goes back this far. I'll
 (25) tell you what - what is this 1977?

(1) itself.
 (2) MS. FORBES: I'm stipulating to -
 (3) I'm raising this objection to the form of the
 (4) question of these specific questions. I'm not
 (5) giving you that stipulation, no.
 (6) BY MR. MAISTROS:
 (7) Q: Next page, middle paragraph, Dr.
 (8) Teague writes: (Reading)
 (9) Happily for the tobacco
 (10) industry, nicotine is both
 (11) habituating and unique in
 (12) its variety of physiological
 (13) actions, hence no other active
 (14) material or combination of
 (15) materials provides equivalent
 (16) satisfaction.
 (17) Do you know that to be a true
 (18) statement?
 (19) MS. FORBES: Objection to the form.
 (20) THE WITNESS: I - I - I think I
 (21) agree with that statement.
 (22) BY MR. MAISTROS:
 (23) Q: Would you - and this isn't phrased
 (24) this way in the document, would you agree that no
 (25) other material within tobacco or tobacco smoke is

Page 216

(1) more important to "satisfaction" than nicotine is?
(2) A: I agree with that.
(3) Q: Would you also agree that that
(4) question is - is answered in the affirmative if
(5) it's qualified by the physiological effects of
(6) nicotine as the most important factor in whether
(7) or not tobacco smoke provides satisfaction?
(8) MS. FORBES: I'm sorry. Objection
(9) to the form. I - I truly have no understanding
(10) of that question. What - what are you talking
(11) about?

BY MR. MAISTROS:

(12) Q: Is there anything more important to
(13) the success of a cigarette than nicotine?

(14) MS. FORBES: In this witness's
(15) opinion?

(16) MR. MAISTROS: Yes.

(17) MS. FORBES: Is that the question?

(18) MR. MAISTROS: He's the only one
(19) answering.

(20) THE WITNESS: No. Nothing's more
(21) important than nicotine.

BY MR. MAISTROS:

(22) Q: And last paragraph: (Reading)

(23) Dr. Teague -

Page 218

(1) up above it do you see where it says - on the
(2) second line: (Reading)?
(3) Whether nicotine will,
(4) over the long term, maintain
(5) its unique position is subject
(6) to some reasonable doubt. With
(7) increased sophistication of
(8) knowledge in the biological
(9) and pharmaceutical areas, a
(10) superior or at least equivalent
(11) product or product mixture may
(12) emerge. For this reason, it would
(13) be a mistake to assume that the
(14) tobacco industry, as we know it,
(15) is immortal or that no direct
(16) competition from organizations
(17) outside of the tobacco industry
(18) will ever occur. It is safe to
(19) assume, however, that nicotine
(20) will retain its unique position
(21) throughout the present ten year
(22) planning period and probably for
(23) a much longer span of time.
(24) Now, I know that's a long couple of
(25) sentences, but I want to ask you, in the period of

Page 217

(1) A: Last paragraph on this page?

(2) Q: This page.

(3) A: Okay.

(4) Q: (Reading)

(5) If nicotine is the sine
(6) qua non -

(7) Did I mispronounce that?

(8) A: You got me. I never saw that term before.

(9) MR. MAISTROS: What do you think
(10) Marilyn?

BY MR. MAISTROS:

(11) Q: (Reading)

(12) Of tobacco products and
(13) tobacco products are
(14) recognized as being attractive
(15) dosage forms of nicotine, then
(16) it is logical to design our
(17) products - and where possible,
(18) our advertising - around
(19) nicotine delivery rather than
(20) tar delivery or flavor.

(21) A: Don't ask me to agree with that. I don't
(22) know what sine qua non is.

(23) Q: I don't want to read the - I guess
(24) I will; there is no other way to do this. Right

Page 219

(1) time you worked with Reynolds, from '77 to '92,
(2) was that still true?
(3) A: Okay. It took me a minute to find you
(4) some; I have to catch up on this reading. Bear
(5) with me a second. I'm starting with the sentence
(6) "Whether"?

(7) Q: Right.

(8) A: Okay.

(WITNESS READS DOCUMENT)

(9) Okay. I agree with that statement.

(10) Q: The next page - it's a - actually
(11) the paragraph starts where I was reading before,
(12) but it goes on - you can read the whole paragraph
(13) if you would like.

(14) My question is going to be - Dr.

(15) Teague is talking about studying different
(16) frequencies and routes of nicotine. And in here
(17) he says: (Reading)

(18) In the absence of such data,
(19) we may survey the market and
(20) conclude that current cigarette
(21) products delivering about 1.3
(22) milligrams of nicotine appear
(23) to satisfy the typical smoker.
(24) While you were employed at

LORILLARD TOBACCO COMPANY

February 2, 1

Page 220

(1) Reynolds, did you ever determine whether or not
 (2) that was about accurate in terms of nicotine -
 (3) 1.3 milligrams?
 (4) MS. FORBES: Objection to the
 (5) form.
 (6) THE WITNESS: I would say it was in
 (7) the time frame early '70s, yes.
 (8) BY MR. MAISTROS:
 (9) Q: (Reading)
 (10) This, somewhat crudely,
 (11) establishes a target dosage
 (12) level for design of new
 (13) products.
 (14) Is that true?
 (15) A: It's reasonable, yes.
 (16) Q: (Reading)
 (17) An accompanying Research
 (18) Planning Proposal describes
 (19) that approach in some detail.
 (20) Are you aware of any -
 (21) A: No. I was not.
 (22) Q: (Reading)
 (23) However, if we knew more
 (24) about nicotine absorption,
 (25) action, elimination,

Page

BY MR. MAISTROS:

(1) Q: Okay, let's go to page 5 on the
 (2) bottom paragraph in the middle, about nine lines
 (3) down. Do you see the sentence "We have
 (4) deliberately?"
 (5) A: Yes. Okay.
 (6) Q: (Reading)
 (7) We have deliberately played
 (8) down the role of nicotine,
 (9) hence the non-smoker has little
 (10) or no knowledge of what
 (11) satisfactions it may offer him
 (12) and no desire to try it.
 (13) Do you know if that was true in
 (14) the '70s?
 (15) MS. FORBES: Objection to the form.
 (16) THE WITNESS: I don't know if
 (17) that's true or not.
 (18) BY MR. MAISTROS:
 (19) Q: Was it true when you were there?
 (20) A: That we played down the role of nicotine?
 (21) Q: Yes.
 (22) A: I certainly don't think we played up the
 (23) role of nicotine, but I don't know that we played
 (24) it down. So, I'm - I'm having a little trouble
 (25)

Page 221

(1) enhancement and the like,
 (2) it should, in theory, be
 (3) possible to more precisely
 (4) specify and deliver the optimum
 (5) amounts of nicotine activity
 (6) in sophisticated products
 (7) which would be more satisfying
 (8) and desirable to the user.
 (9) Do you know if that research was
 (10) undertaken?
 (11) A: The - the development of the -
 (12) MS. FORBES: Objection to the
 (13) form.
 (14) THE WITNESS: - information on
 (15) nicotine absorption, et cetera?
 (16) That body of information that he's
 (17) asking for here, to my knowledge, was not done;
 (18) unless it was worked on, you know, 15 years after
 (19) this document when the nicotine pharmacology group
 (20) was started in R & D.
 (21) MR. MAISTROS: Okay. We have to -
 (22) THE WITNESS: Or maybe ten years.
 (23) MR. MAISTROS: I'll tell you what,
 (24) let me see if we can finish this document on this
 (25) tape.

Page 2

(1) with that.
 (2) Q: The next sentence - it says:
 (3) (Reading)
 (4) Instead, we somehow must
 (5) convince him with wholly
 (6) irrational reasons that he
 (7) should try smoking, in the
 (8) hope that he will for himself
 (9) then discover the real
 (10) satisfactions obtainable.
 (11) Do you agree with that sentence?
 (12) A: Well, no. I mean, certainly not ethically,
 (13) no.
 (14) Q: It wouldn't be ethical if that was
 (15) undertaken. Do you know if it was or wasn't?
 (16) A: Oh, okay. No. I don't know whether that
 (17) was undertaken or not.
 (18) MR. MAISTROS: Okay. We're going
 (19) to have to change the tape, okay.
 (20) (RECESS TAKEN FROM 3:30 P.M. TO 3:46 P.M.)
 (21) BY MR. MAISTROS:
 (22) Q: Could you go to the page - it's 8
 (23) at the top, second to the last page, to the
 (24) heading "Indicated Research Department Activities
 (25) and Approaches."

Page 224

(1) A: Yes.
(2) Q: Dr. Teague states: (Reading)
(3) If the above is a valid line
(4) of reasoning, then our long-term
(5) future courses of action should
(6) be as follows.
(7) And he lists eight items. The
(8) first thing he says is: (Reading)
(9) Recognize the key role of
(10) nicotine in consumer satisfaction,
(11) and design and promote our products
(12) with this in mind.
(13) When you started at Reynolds in '77
(14) did you come to learn that Reynolds recognized the
(15) key role of nicotine in consumer satisfaction?
(16) MS. FORBES: Objection to the form.
(17) THE WITNESS: No. I don't know
(18) that I do or that I did.
(19) BY MR. MAISTROS:
(20) Q: Have there ever come a point in
(21) time where such is the case?
(22) MS. FORBES: Objection to the
(23) form.
(24) THE WITNESS: Okay. Try to clarify
(25) this one. When I started with the company in

Page 226

(1) in terms of dose levels,
(2) dose frequency, dosage form,
(3) and the like.
(4) To your knowledge, was that
(5) research undertaken while you were employed at
(6) Reynolds?
(7) A: The only thing that I know of is that there
(8) was a scientist named Chuck Rix who did some work
(9) with nicotine levels. He was - I believe he was
(10) actually looking at shorter nicotine or maybe
(11) diluted nicotine. I've never read that work.
(12) I've only heard about it. That would have been
(13) done before I joined the company. After joining
(14) the company I do - I cannot think of a project
(15) where this work was done.
(16) Q: In number three Teague states:
(17) (Reading)
(18) Sponsor in-depth studies of
(19) the physiological, psychological
(20) and other effects of nicotine,
(21) aimed at demonstrating the
(22) beneficial effects of nicotine
(23) and at disproving allegations
(24) that nicotine produces major
(25) adverse effects.

Page 225

(1) 1977, and maybe it was because I was new and
(2) didn't have a good understanding of what was going
(3) on in R & D, but it was not apparent to me that
(4) the company - or that the research department
(5) recognized nicotine as having a key role in
(6) consumer satisfaction.
(7) BY MR. MAISTROS:
(8) Q: Had that ever become apparent to
(9) you?
(10) MS. FORBES: Objection to the form.
(11) THE WITNESS: All right. Yes.
(12) Certainly. Somewhere along the line in my career
(13) there that became apparent to me.
(14) BY MR. MAISTROS:
(15) Q: To your knowledge, was the company
(16) aware at some point in time the key role of
(17) nicotine in consumer satisfaction?
(18) A: Yes.
(19) MS. FORBES: Objection to the
(20) form.
(21) BY MR. MAISTROS:
(22) Q: The second line says: (Reading)
(23) More precisely define the
(24) minimum amount of nicotine
(25) required for "satisfaction"

Page 227

(1) Do you know if that work was done?
(2) A: Yes. I guess that was what lead to the -
(3) to the work that - earlier on, a scientist, Tom
(4) Perietti, was hired to exclusively devote himself
(5) to researching nicotine. And he started doing
(6) that shortly after I joined the company, so that
(7) would have been about in 1978. And certainly the
(8) nicotine pharmacology group that existed in the
(9) Biochemical Biobehavioral Department carried on
(10) this work.
(11) Q: Was it one of the goals of the
(12) nicotine pharmacology group to increase the sale
(13) of cigarettes?
(14) MS. FORBES: Objection to the
(15) form.
(16) THE WITNESS: Their goal was to
(17) find understanding. They were not a product
(18) development group. They were there to establish
(19) knowledge and facts.
(20) BY MR. MAISTROS:
(21) Q: Even the basic research group, such
(22) as the pharmacology group, didn't they have to tie
(23) their work to a technical commercial goal?
(24) MS. FORBES: Objection.
(25) Argumentative. Asked and answered.

LORILLARD TOBACCO COMPANY

Page 228

(1) THE WITNESS: No. Certain research
(2) was done under the discretion of Bob DiMarco, the
(3) vice president, if he felt it needed to be done.
(4) He did not have to have a direct tie in to sales
(5) goals.

BY MR. MAISTROS:

Q: All right. Number four: (Reading)

(6) Study, design and evaluate
(7) new or improved systems for
(8) delivery of nicotine which
(9) will provide the minimum
(10) satisfying amount of nicotine
(11) in attractive form, free of
(12) allegedly harmful combustion
(13) products.

(14) Do you know if that work was
(15) undertaken?

(16) A: Well, I guess most of the projects that I
(17) ended up working on did this kind of work.

(18) Q: Would project Omega be an example
(19) of this?

(20) A: Project Omega would. I guess Premier would
(21) for that matter.

Q: Number five: (Reading)

(22) Study means for enhancing

Page

(1) improved nicotine delivery
(2) systems of the type proposed
(3) here.

(4) Was that work undertaken?

(5) MS. FORBES: Well, objection to the
(6) extent he hasn't reviewed this entire document.

(7) THE WITNESS: Yes. I - I assume

(8) that that kind of monitoring work was done.

BY MR. MAISTROS:

(9) Q: Number eight: (Reading) Search for
(10) and evaluate other physiologically active
(11) components of tobacco or its smoke which may
(12) provide desired effects to the smoker.

(13) Was that undertaken?

(14) A: Yes. I guess it was in the nicotine analog
(15) work.

(16) Q: Do you know if Reynolds ever
(17) investigated the smoke to determine if there was
(18) anything other than the nicotine that provided
(19) physiologically - provided physiological effects?

(20) A: Reynolds did an incredible job of analyzing
(21) the compounds in the smoke, identifying the
(22) specific compounds, and then probably
(23) characterizing those compounds. So, if there were
(24) other components in the smoke, Reynolds probably
(25)

Page 229

(1) nicotine satisfaction via
(2) synergists, alteration of pH,
(3) or other means, to minimize
(4) dose level and maximize desired
(5) effects.

(6) Do you know if that work was
(7) undertaken?

(8) A: Certainly work was done with smoke pH, but
(9) I don't know about other ways of altering and
(10) enhancing nicotine satisfaction besides the
(11) alteration of smoke pH.

Q: Number six: (Reading)

(12) Monitor developments in
(13) materials and product which
(14) may compete with nicotine
(15) products or which may be
(16) combined with nicotine
(17) products to provide added
(18) advantages or satisfactions.

(19) Do you know if that was undertaken?

(20) A: As I understand it, I don't know that this
(21) was undertaken.

Q: Number seven: (Reading)

(22) Monitor work by others
(23) which might be aimed at

Page

(1) would have none now. But to my knowledge there
(2) were not other components in the smoke besides
(3) nicotine that would have the physiological
(4) properties we've been talking about.

(5) (PLAINTIFF'S EXHIBIT NUMBER 4 WAS MARKED FOR
(6) IDENTIFICATION)

BY MR. MAISTROS:

(7) Q: Okay. Exhibit 4 is a memorandum
(8) entitled "Ammonia" and it says: (Reading)

(9) Ammonia is used by RJRT
(10) in the following tobacco
(11) processing operations:
(12) Denicotinization of burley
(13) tobacco and Ammoniation of
(14) reconstituted tobacco.
(15) And I appreciate that this
(16) document, at least my version, doesn't have a
(17) legible date on it, but it's stamped with the
(18) Reynolds numbers in the right-hand corner 50099
(19) 0993 through 0998?

(20) A: Are you saying there is not a date on this
(21) document then?

(22) Q: Not that I see.

(23) A: Okay.

(24) Q: I mean, not to identify the
(25)

Page 232

(1) specific date of the document - states in the
(2) document, I'm not going to ask you about the
(3) whole document; you're welcome to read it. Let me
(4) take you to a part and you tell me if you have to
(5) read the whole document to answer it, okay?
(6) Page 4, the author, who is also not
(7) identified in the document, lists seven items that
(8) he's talking about, use of tobacco and pneumonia.
(9) You're welcome to read them. And then he goes on
(10) to say or she goes on to say: (Reading)
(11) Based on the above
(12) observations, it was decided
(13) to investigate the use of
(14) ammoniated reconstituted
(15) tobacco (G7A) as a means
(16) of increasing the smoke pH of
(17) RJR cigarette products.
(18) NFO tests indicate that
(19) smokers prefer products
(20) containing G7A over products
(21) containing only G7 (untreated
(22) reconstituted tobacco). Since
(23) the introduction of Camel filter
(24) in 1975, G7A has been tested
(25) and/or introduced in 19

Page 233

(1) additional brands at levels
(2) (in typed it says) Ranging from
(3) 27 percent plus (but above
(4) that there is something
(5) handwritten.)
(6) Were you aware of that?
(7) MS. FORBES: Objection. Lack of
(8) foundation on this document.
(9) THE WITNESS: Am I aware of the
(10) facts that were being discussed -
(11) MR. MAISTROS: Yes.
(12) THE WITNESS: - in this
(13) paragraph?
(14) Yes. It's coming back to me, yes.
(15) Yes.
(16) BY MR. MAISTROS:
(17) Q: Were you aware then that G7A, which
(18) was ammoniated reconstituted, was used in or
(19) introduced in 19 different brands after '75 at
(20) Reynolds?
(21) A: I certainly didn't know the exact number of
(22) brands.
(23) Q: Is there anything else that this
(24) memo refreshes your recollection insofar as
(25) ammonia is concerned?

Page 234

(1) A: Well, without taking the time to read it I
(2) can't really answer that question.
(3) Q: You're welcome to read it if you'd
(4) like - if you can start just the page before at
(5) "Reconstituted Tobacco," page 3.
(6) A: Okay.
(7) Q: Is there anything in that section
(8) on reconstituted tobacco that refreshes your
(9) recollection about Reynolds' use of ammonia in the
(10) reconstituted tobacco process?
(11) A: It clarifies my memory; that's all. It
(12) does not raise any specific facts.
(13) Q: Does it help you with respect to
(14) the issue of whether or not Reynolds actually
(15) employed gaseous ammonia in commercial cigarette
(16) that were sold and the manufacture of commercial
(17) cigarettes that were sold?
(18) A: Yes. I mean, I'm not sure that it was
(19) gaseous ammonia, but I do remember now that we did
(20) use G7A, and that it was used in Camel filter, and
(21) that it was a - it was a tool that product
(22) developers loved. There were a lot of products
(23) tested with G7A in it.
(24) Q: Does it refresh your recollection
(25) as to what the primary reason behind using ammonia

Page 235

(1) was?
(2) MS. FORBES: Objection to the form.
(3) THE WITNESS: Yes.
(4) BY MR. MAISTROS:
(5) Q: And what was that?
(6) A: The increase in the smoke pH, the
(7) alteration of the taste properties, generally
(8) improvement in taste properties, the amelioration
(9) of the harshness, and certainly taking on more of
(10) the Philip Morris' Marlboro signature as opposed
(11) to Reynolds harshness signature.
(12) (PLAINTIFF'S EXHIBIT NUMBER 5 WAS MARKED FOR
(13) IDENTIFICATION)
(14) BY MR. MAISTROS:
(15) Q: This exhibit is Exhibit 5; it's
(16) dated January 5th, 1977. It's from a D.H. Fiehl
(17) to distribution of a lot of people on the
(18) distribution sheet.
(19) Were you at Reynolds in January of
(20) 1977?
(21) A: No. I joined in May.
(22) Q: This memo says: (Reading)
(23) In 1977 we will be
(24) increasingly concerned with
(25) discovering new means for

Page 236

Page

(1) control of nicotine, tar to
 (2) nicotine ratio and satisfaction
 (3) in our products. We have
 (4) reviewed our knowledge and
 (5) realize most of our technical
 (6) strengths and deficiencies in
 (7) this area. However, we want to
 (8) be absolutely sure we have all
 (9) the input and judgment possible,
 (10) particularly from those not
 (11) directly involved in our
 (12) research effort.
 (13) Then the author goes on to invite
 (14) the people on the distribution sheet to a meeting
 (15) on January 24th, 1977.
 (16) Do you see the people on the
 (17) distribution sheet?
 (18) A: Yes, I do.
 (19) Q: Were any of those people in upper
 (20) management at Reynolds when you joined five months
 (21) later?
 (22) A: I don't know what you mean by upper
 (23) management.
 (24) Q: Well, management. Let's start with
 (25) management.

(1) division manager.
 (2) Q: Which division?
 (3) A: That was the division - I can't remember
 (4) the name that we had. I'm sorry. It was kind of
 (5) an unusual name, but I don't recall what the name
 (6) was.
 (7) Q: That was in Research?
 (8) A: Yes.
 (9) Q: Are you still friends with any of
 (10) the people on this distribution sheet?
 (11) A: I certainly consider - although I never
 (12) see these people, I certainly consider Walt Henley
 (13) a friend. I certainly consider Bob Lloyd a
 (14) friend, and I think that's about it.
 (15) Q: Was there anyone that's still
 (16) employed at Reynolds that you still have regular
 (17) contact with?
 (18) A: That's on this list?
 (19) Q: No. Anyone on the list or not.
 (20) A: Just a couple of folks.
 (21) Q: Who is that?
 (22) A: Jeff Gentry, Gary Shaler and Chandra
 (23) Banerjee.
 (24) (PLAINTIFF'S EXHIBIT NUMBER 6 WAS MARKED FOR
 (25) IDENTIFICATION)

Page 237

Page 2

(1) A: Yes. Andy Laurene was the vice president;
 (2) Dr. Rodgman was the director; Giles, Henley,
 (3) Roberts and Stowe were all division managers.
 (4) Rowland I didn't know. Dickerson, Green and Lloyd
 (5) were all group leaders. The rest of these were
 (6) fairly high level scientists. The second column
 (7) would be management personnel from the development
 (8) department, because they were still separate back
 (9) then, okay. And then the third column would be
 (10) the managers of the tobacco growing. This is the
 (11) field trials, that kind of agricultural practices.
 (12) Q: Were any of these people in
 (13) marketing?
 (14) A: No.
 (15) Q: Do you know if this gathering of
 (16) people led to the formation of any primitive group
 (17) when you joined in May?
 (18) MS. FORBES: Objection. Lack of
 (19) foundation.
 (20) THE WITNESS: I - I don't know
 (21) that it did, but there wasn't a permanent - no, I
 (22) just don't know.
 (23) BY MR. MAISTROS:
 (24) Q: Okay. Now, who was Dr. Henley?
 (25) A: Dr. Henley was my boss. He was the

(1) BY MR. MAISTROS:
 (2) Q: The exhibit I'm showing you is
 (3) a - has a little cover note on the front that
 (4) says "From the desk of Frank Colby," has a little
 (5) memo sheet copied and then there is a document
 (6) attached to it. It's got the Reynolds stamp in
 (7) the right-hand corner 50025 1107 through 1115.
 (8) First of all, who was Dr. Colby?
 (9) A: Heard his name a lot, and he had a very
 (10) responsible position in the research department.
 (11) He may have been over the research department, but
 (12) that was so far ahead of - before my time that
 (13) I'm don't know for sure what his title was.
 (14) Q: Have you ever seen the document
 (15) that's attached to this memorandum that's entitled
 (16) "Sugar In Smoke, Its Effect on Smoking"?
 (17) A: So far, I don't know whether I've read this
 (18) before or not. It's pretty general information
 (19) that I'm familiar with having read but I don't
 (20) know that I've read this specific memo.
 (21) Q: Do you agree with the - the author
 (22) starts out in the introduction by saying:
 (23) (Reading)
 (24) The pH of tobacco smoke
 (25) plays an important role in

February 2, 1998

LORILLARD TOBACCO COMPANY

Page 240

Page 242

(1) the satisfaction of smoking
 (2) since it influences the
 (3) amount of available nicotine
 (4) in the mainstream smoke which
 (5) can be absorbed by the smoker.
 (6) Do you agree with that statement?
 (7) A: Yes.
 (8) Q: Do you agree with the following
 (9) statement: (Reading)
 (10) It has been shown that
 (11) nicotine appears in the free
 (12) base form at alkaline pH
 (13) levels and is more readily
 (14) absorbed in this form.
 (15) A: Yes.
 (16) Q: Do you know when during your tenure
 (17) at Reynolds you would have had knowledge of the
 (18) truth of those two statements, how soon after you
 (19) started working there?
 (20) A: Within a couple of years.
 (21) Q: You weren't the only one who
 (22) thought that, were you -
 (23) MS. FORBES: Objection to the
 (24) form.
 (25) BY MR. MAISTROS:

(1) Q: Could you go to the third page of
 (2) this document.
 (3) A: Uh-huh.
 (4) Q: It's got an entry five down. It
 (5) says "July 22nd, The Effects of Alien Root Systems
 (6) on Tobacco Quality. M.D. Shannon, chemist 23."
 (7) Is that you, M.D. Shannon?
 (8) A: Yes.
 (9) Q: Do you remember doing studies on
 (10) the effects of alien root systems a couple of
 (11) months after you started Reynolds?
 (12) A: Would this have been my exact title? I
 (13) don't remember that exact title. I do remember
 (14) we - we had some tobacco that was - wow - I
 (15) don't know whether it was grafted on different
 (16) root systems. I vaguely recall that, although I
 (17) don't recall exactly that title.
 (18) Q: What is the - in the two
 (19) entries - three entries down, where it says
 (20) "August 24th evaluation of -" I can't read
 (21) that -
 (22) A: "Of Ameralinho tobacco."
 (23) Q: What is Ameralinho tobacco?
 (24) A: It was - it was something like flue-cured
 (25) tobacco that had some of the Turkish tobacco smoke

Page 241

Page 243

(1) Q: - at Reynolds?
 (2) MS. FORBES: Calls for
 (3) speculation.
 (4) BY MR. MAISTROS:
 (5) Q: And that it was not a novel theory?
 (6) MS. FORBES: Objection to the form.
 (7) THE WITNESS: No, it was not.
 (8) BY MR. MAISTROS:
 (9) Q: Was it shared by most scientists at
 (10) Reynolds?
 (11) MS. FORBES: Objection to the form.
 (12) THE WITNESS: I'm sorry, I missed
 (13) the question.
 (14) BY MR. MAISTROS:
 (15) Q: What is shared by that belief
 (16) shared by most scientists at Reynolds?
 (17) MS. FORBES: Objection to the form.
 (18) THE WITNESS: I believe so.
 (19) (PLAINTIFF'S EXHIBIT NUMBER 7 WAS MARKED FOR
 (20) IDENTIFICATION)
 (21) BY MR. MAISTROS:
 (22) Q: Exhibit 7 is a handwritten
 (23) document. First of all, that's not your
 (24) handwriting, is it?
 (25) A: Nope.

(1) qualities. Turkish tobacco had very unusual
 (2) characteristics of what we call a dirty sock taste
 (3) or aroma. So, to have that on a flue-cured
 (4) tobacco was unusual. We picked up some samples
 (5) and we were just doing a cursory evaluation of it.
 (6) Q: And next page - you did some work.
 (7) five down, "Evaluation of Synthetic Materials
 (8) Proposed For Use In Tobacco Storage."
 (9) Do you know what that work was?
 (10) A: Yes.
 (11) Q: What was that?
 (12) A: That's - wow - we were looking for
 (13) something that would be used, I guess with the
 (14) hogs heads, to try to contain the tobacco leaves
 (15) for storage. And there were some synthetic
 (16) materials, polymers, plastics, interwoven mats.
 (17) That we felt since they were coming into contact
 (18) with tobacco they could end up, in a worst case
 (19) scenario, contaminating the tobacco. The points
 (20) of this project was to determine if they did end
 (21) up contaminating tobacco whether it would hurt the
 (22) cigarette products.
 (23) Q: Up above that there is a second
 (24) entry, it says "Review of Nicotine Biosynthesis."
 (25) Do you know what that could have

Page 244

Page

(1) been in reference to, recognizing you're not the
(2) author?

(3) A: No, I don't.

(4) Q: On the second to the last page at
(5) the top, under the 9/14/77 heading it says
(6) "Classification Of Flue-cured Tobaccos By
(7) Chemical Analysis I. Differentiation Between X
(8) Grades and Straight Grades."

(9) Do you know what that is?

(10) A: Yes.

(11) Q: What is that?

(12) A: That was Jim Dickerson. That was my - my
(13) group leader at this time, and he was the one who
(14) went in and initially started looking at these
(15) different grades of tobacco by different stalk
(16) positions. Looking at the chemistry and then
(17) relating the chemistry to, you know, back to the
(18) grade and stock position. So, he was putting all
(19) of that information together.

(20) Q: Why didn't Reynolds, if you know,
(21) ever include a chemical analysis method of
(22) determining grades as opposed to the art you
(23) referred to?

(24) A: Because we bought tobacco, literally by
(25) millions of pounds or something every year by that

(1) them. The competitive brands study would then
(2) draw comparisons, make observations, draw
(3) conclusions, report findings.
(4) Q: On the last page of this document
(5) it refers to a study. Your name is not by it, but
(6) on the third to the last entry it says
(7) "Investigation of Nicotine Transfer to Mainstream
(8) Smoke I. Synthesis of Nicotine Salts."

(9) Were you aware of the work Perferri
(10) was doing in that area in '78?

(11) A: I knew he was - he was working on
(12) synthesizing some nicotine salts. I never knew
(13) why. And I do not know what the investigation of
(14) nicotine transfer to mainstream smoke was all
(15) about.

(16) Q: How about the next entry, "Nicotine
(17) and Smoker Satisfaction: An In-house Consumer
(18) Study" by Neumann.

(19) Do you know what that work was?

(20) A: I knew what it may have been. Cal Neumann
(21) worked in my group as well. He did a large
(22) consumer study that, I think, was roughly in this
(23) time frame where we sent products out to smokers
(24) on part of that sensory evaluation; the unusual
(25) aspect being that they did return the filters and

Page 245

Page 2

(1) - by that method, that artistic method of the
(2) buyer who walks by and he looks at the leaf, he
(3) smells it and, you know, he - believe it or not
(4) that is eminently quicker than doing a lot of
(5) chemical analysis and trying to - trying to blend
(6) the tobacco based on chemistry.

(7) (PLAINTIFF'S EXHIBIT NUMBER 8 WAS MARKED FOR
(8) IDENTIFICATION)

(9) BY MR. MAISTROS:

(10) Q: And these are similar. Again, not
(11) in your handwriting. On the first page, second to
(12) the last entry it says "Comparison Of Physical and
(13) Chemical Analysis Of Selected 1977 Competitors
(14) Brand."

(15) Do you know what that report was in
(16) April of '78?

(17) A: Yes.

(18) Q: What was that?

(19) A: It was a study that just simply refer to as
(20) the Competitive Brand Studies. It was the way
(21) of - it was our way of monitoring competitive
(22) products and comparing them against ours. We
(23) literally went and bought off the shelf Philip
(24) Morris brands, Lorillard brands, Brown &
(25) Williamson brands, and ours, and we analyzed

(1) butts back to us for analysis. Cal was - I
(2) believe he was looking - he was analyzing those
(3) smoked filters and butts trying to assess how much
(4) nicotine the smokers were probably getting.

(5) Q: Do you know what the purpose of
(6) that research was?

(7) A: Yes. To better understand how much smokers
(8) might be compensating or titrating in their
(9) smoking behavior.

(10) (PLAINTIFF'S EXHIBIT NUMBER 9 WAS MARKED FOR
(11) IDENTIFICATION)

(12) BY MR. MAISTROS:

(13) Q: Exhibit 9 is a document entitled at
(14) the top "1978 Program. Project 1195. Tobacco
(15) Composition and Low Tar Cigarette Concept." On
(16) item four it says what undertakings are for '78
(17) and here cited "Evaluate flue-cured and burley
(18) blends prepared on basis of chemical analysis.
(19) Shannon 40 percent."

(20) Does that mean you spent 40 percent
(21) of your time doing that in '78?

(22) A: I think so.

(23) Q: And was that related to the project
(24) you testified about earlier, trying to figure out
(25) if you could grade by chemical analysis as opposed

(1) to the art?
 (2) A: Yes.
 (3) Q: Next one says: (Reading)
 (4) Analyze special tobacco
 (5) types, foreign tobaccos,
 (6) experimental varieties,
 (7) high and low nicotine types,
 (8) bulk-cured burleys, and
 (9) evaluate their effects on
 (10) tar and nicotine delivery
 (11) and their utility in current
 (12) and future blends.
 (13) Is that something you testified
 (14) about previously today?
 (15) A: I think we've touched on it with the
 (16) amylene and tobacco and the alien root system
 (17) tobacco. This was pretty strictly unusual tobacco
 (18) that needed to be analyzed.
 (19) Q: On the next page in the first
 (20) paragraph it says: (Reading)
 (21) Information obtained from
 (22) tobacco composition studies
 (23) will be used to design low
 (24) tar cigarettes. Variations
 (25) in tobacco types and in

(1) example, in this paragraph we're talking about
 (2) some tobacco or some cigarette prototypes and
 (3) therefore that would tend to - particularly with
 (4) ultra low - ultra low tar prototypes you would
 (5) be - tend to talk about overall acceptance and
 (6) therefore the overall smokers response to a
 (7) product and satisfaction.
 (8) Q: Okay. And in the second to the
 (9) last paragraph it says: (Reading)
 (10) Physical and chemical
 (11) characteristics of unusual
 (12) tobacco types which are of
 (13) potential use to RJR will
 (14) be determined. Selection of
 (15) samples for evaluation will
 (16) be based on information from
 (17) the Agricultural Research
 (18) Department. Awareness of
 (19) new agricultural practices
 (20) which may affect the
 (21) characteristics of the
 (22) company's raw material will be
 (23) maintained. Particular emphasis
 (24) will be placed on experimental
 (25) tobaccos which may have utility

(1) casing levels will be
 (2) considered. Experimental
 (3) tobaccos with unusual
 (4) tar/nicotine ratios will be
 (5) incorporated into blends as a
 (6) means of determining optimum
 (7) tar/nicotine ratios for smoker
 (8) satisfaction.
 (9) Did you engage in that work?
 (10) A: Yes.
 (11) Q: In this particular research was
 (12) smoker satisfaction equivalent to physiological
 (13) need for nicotine?
 (14) A: I'm trying to see here. It does fit that.
 (15) Smoker satisfaction is not just smokers
 (16) physiological need for nicotine, and that's
 (17) particularly true when you're talking about ultra
 (18) low tar cigarettes where things like the mouth
 (19) feel and throat sensation and lung sensation are a
 (20) big part of smoker satisfaction as well.
 (21) Q: When you refer - when you refer to
 (22) smoker satisfaction in a memo, how do we know if
 (23) you're referring to a physiological need or
 (24) overall satisfaction?
 (25) A: Probably the context of the sentence. For

(1) in controlling tar and nicotine.
 (2) In this category include 1977
 (3) crop flue-cured tobaccos with
 (4) varying nicotine levels that
 (5) may have been grown on the
 (6) Avoca farm.
 (7) Do you know what that's talking
 (8) about, that whole paragraph?
 (9) MS. FORBES: Objection to the
 (10) form.
 (11) THE WITNESS: I think it's just
 (12) expounding on the nature of that program which was
 (13) really to - to try to get into the different
 (14) types of tobacco that were there; to learn more
 (15) about their composition, and to try to relate this
 (16) into chemistry; reduce it to science that we could
 (17) understand. And this particular paragraph is
 (18) speaking to some of the unusual tobaccos or
 (19) specially grown tobaccos. Frankly, none of which
 (20) that I can remember. You know, none of this work
 (21) that I can remember ever was significant at all.
 (22) BY MR. MAISTROS:
 (23) Q: To you or to Reynolds or both?
 (24) A: Both.
 (25) Q: How much time did Reynolds spend

Page 252

(1) attempting to reduce the tar and nicotine ratio to
(2) tobacco?

(3) MS. FORBES: Objection to the
(4) form.

(5) THE WITNESS: How much time did
(6) they spend trying to alter the tar and nicotine
(7) ratio? They're probably still doing it in some
(8) context under some project. I mean, that was a
(9) recurring theme to some extent.

(10) (PLAINTIFF'S EXHIBIT NUMBER 10 WAS MARKED FOR
(11) IDENTIFICATION)

(12) BY MR. MAISTROS:

(13) Q: Okay, Exhibit 10 is it? Exhibit
(14) 10 is a memo dated in the top in handwriting
(15) 1/3/78 which would have been about six months
(16) after you started, right?

(17) A: I'm sorry. The date is where? Oh,
(18) 1/3/78?

(19) Q: Right.

(20) A: Yes.

(21) Q: Did you see the extra copies being
(22) provided to ten people including you?

(23) A: Yes.

(24) Q: The subject is entitled "Nicotine
(25) and Smoker Satisfaction." You can read this memo

Page 253

(1) Q: And do you recall as you look at -
(2) lets take 11 since it appears to be a final
(3) version of the draft and since it's signed by Dr.
(4) Pichl. Do you recall receiving a memo entitled
(5) "Nicotine and Smoker Satisfaction" on or about
(6) January 4th, '78?

(7) A: I do not remember this particular document.

(8) Q: As you read the objective it says:
(9) (Reading)

(10) The ultimate goal of
(11) this research is to provide
(12) the means to maximize smoker
(13) satisfaction for all RJR
(14) cigarette brands, with
(15) particular emphasis on low
(16) tar cigarettes.

(17) And that lists four objectives; do
(18) you see that?

(19) A: Uh-huh.

(20) Q: As you look at those four
(21) objectives 77-78: (Reading)

(22) One: Determine the taste
(23) characteristics of nicotine
(24) and factors that affect its
(25) perception. Two: Determine

Page 254

(1) if you'd like, but -

(2) A: Who is this from? Is it signed? Okay.

(3) Q: Well, I'll give you one in a minute
(4) that looks to be a very similar draft to this. It
(5) follows this if that will help you now?

(6) A: That's okay. That's okay.

(7) Q: I can give it to you. I'll
(8) represent that it's pretty close to the one that
(9) you're reading, but the handwriting's been
(10) incorporated by itself. And I'll mark the second
(11) one as 11.

(12) (PLAINTIFF'S EXHIBIT NUMBER 11 WAS MARKED FOR
(13) IDENTIFICATION)

(14) BY MR. MAISTROS:

(15) Q: Now, this one is dated and typed
(16) January 4th, '78. We can work off the second one
(17) if you prefer.

(18) A: Okay.

(19) Q: But you're shown as being on the
(20) distribution sheet on the last page.

(21) A: Right.

(22) Q: By Pichl. And this is to Rodgman
(23) who in January of '78 held what position?

(24) A: It was the director of the research
(25) department.

Page 255

(1) the means to alter and control
(2) tar/nicotine ratio and increase
(3) nicotine transfer efficiency.

(4) Three: Define the optimum
(5) nicotine level in cigarette
(6) smoke required to maximize
(7) smoker satisfaction. Determine
(8) the existence of a minimum (or
(9) threshold value of nicotine
(10) required for satisfaction.

(11) Four: To identify any other
(12) factors that are important to
(13) smoker satisfaction.
(14) Did you particularly undertake any
(15) of that research with respect to those
(16) objectives?

(17) MS. FORBES: Objection to the
(18) form.

(19) THE WITNESS: Maybe some peripheral
(20) work touching on some of these, but no, I was not
(21) directly responsible for any significant work in
(22) these areas.

(23) BY MR. MAISTROS:

(24) Q: Do you know why you were copied on
(25) this memo?

Page 256

(1) A: Yes. Because this does deal with emphasis
(2) on low tar cigarettes, and we did have project
(3) assignment of developing tobaccos and technologies
(4) for low tar cigarettes.

(5) Q: And page 4 there is a heading that
(6) says "Preliminary Optimum Nicotine Level
(7) identified."

(8) Do you see that?

(9) A: Yes. I do.

(10) Q: It says: (Reading)

(11) The preliminary data above
(12) apparently reveal an optimum
(13) nicotine level of 0.12 milligram
(14) puff. These results should be
(15) regarded as unconfirmed at
(16) this point. However, it is
(17) of interest to speculate since
(18) the value for Winston has
(19) usually been over 0.15
(20) milligrams puff and the value
(21) for Marlboro 0.13 milligrams
(22) puff or less.

(23) Do you know that to be true in
(24) January of 1978?

(25) MS. FORBES: Objection to the

Page 258

(1) Q: The last sentence of that first
(2) paragraph says: (Reading)

(3) Work in 1978 is aimed at
(4) determining how nicotine is
(5) bound in tobacco and transferred
(6) to smoke so that specific means
(7) for increasing transfer
(8) efficiency might be developed.
(9) Do you know if that work was
(10) undertaken?

(11) A: Wow. Not that I know of.

(12) Q: Do you know why Reynolds may have
(13) been looking at increasing transfer efficiency of
(14) nicotine in 1978?

(15) MS. FORBES: Objection to the form.

(16) THE WITNESS: Well, I assume

(17) because ideally with ultra low tar cigarettes the
(18) transfer efficiency of nicotine into smoke is very
(19) low, very poor. If that could be in some way
(20) increased, then you could deliver more nicotine to
(21) the smoker without having to resort to putting a
(22) lot more nicotine into the tobacco run.

BY MR. MAISTROS:

(23) Q: So stated another way, the goal
(24) would be to get more nicotine out of the existing
(25)

Page 257

(1) form.

(2) THE WITNESS: That the delivery
(3) cited for Winston and Marlboro are as cited? I
(4) assume that they are correct.

(5) BY MR. MAISTROS:

(6) Q: Were you aware that Reynolds had
(7) identified a preliminary optimum nicotine value in
(8) 1978?

(9) MS. FORBES: Objection to the form.

(10) THE WITNESS: I'm - he says the
(11) preliminary data above apparently reveal an
(12) optimum nicotine level. I do not - certainly do
(13) not recall what the preliminary data above are.
(14) So, I - I don't know that it really does support
(15) this observation that an optimum nicotine level is
(16) determined.

(17) BY MR. MAISTROS:

(18) Q: On the next page -

(19) A: Uh-huh.

(20) Q: Do you see the heading - I'm
(21) sorry, not the next page. Let's go to page 2.

(22) A: Yes.

(23) Q: Do you see the heading "Tar and
(24) Nicotine Ratio and Nicotine Transfer Efficiency?"

(25) A: Uh-huh.

Page 259

(1) nicotine in the tobacco than you otherwise could?

(2) MS. FORBES: Objection to the form.

(3) THE WITNESS: To have that
(4) potential to do that, yes.

(5) BY MR. MAISTROS:

(6) Q: Now, in the - on the page 3 at the
(7) top.

(8) Do you see that?

(9) A: Uh-huh.

(10) Q: (Reading):

(11) Data collected on major
(12) components show that flue-cured
(13) tobacco has the highest tobacco
(14) to smoke nicotine transfer
(15) efficiency, 14 percent.
(16) Flue-cured also has the lowest
(17) tar and nicotine ratio, 10, and
(18) is usually the largest blend
(19) component. Therefore, despite
(20) the fact that burley tobacco
(21) usually has a higher nicotine
(22) level, flue-cured contributes
(23) more nicotine in most blended
(24) cigarettes than any other blend
(25) component.

Page 260

(1) Were you aware of that in 1978?
 (2) **MS. FORBES:** Objection to the form.
 (3) **THE WITNESS:** Yes. I think I
 (4) recall that.
 (5) **BY MR. MAISTROS:**
 (6) **Q:** Now, on the next paragraph it
 (7) says: (Reading)
 (8) Experiments with nicotine
 (9) added as the freebase and
 (10) as malate salt to various
 (11) blend components show that
 (12) it transfers less efficiently,
 (13) 6 to 8 percent, than inherent
 (14) nicotine and with little
 (15) difference between tobacco types.
 (16) These results do not agree with
 (17) some literature reports. However,
 (18) much higher transfer efficiencies
 (19) were achieved when nicotine malate
 (20) was added to the denicotinized
 (21) tobacco used in the Reynolds
 (22) cigarette.
 (23) Do you know why that work was being
 (24) undertaken?
 (25) **MS. FORBES:** Objection to the form.

Page 261

(1) **THE WITNESS:** No. I do not know
 (2) why that work was being done.
 (3) **BY MR. MAISTROS:**
 (4) **Q:** Were you aware that Reynolds was
 (5) doing research with experimenting adding malate
 (6) salt to blend components?
 (7) **MS. FORBES:** Objection to the form.
 (8) **THE WITNESS:** I'm not surprised
 (9) they were doing it, because I may remember -
 (10) recall and remember it, but I'm not clear on it.
 (11) **BY MR. MAISTROS:**
 (12) **Q:** Could you go to page 6 of Exhibit
 (13) 10. See on page 6, Exhibit 10.
 (14) **A:** Uh-huh.
 (15) **Q:** Do you see the heading at the
 (16) bottom "Importance Of Smoke PH Is Unclear." It's
 (17) underneath the heading "Other Factors Important to
 (18) Smoker Satisfaction"?
 (19) **A:** Now, did you say page 6?
 (20) **Q:** Page 6.
 (21) **A:** That's a copy sheet.
 (22) **MS. SALZMAN:** In Exhibit 10.
 (23) **MR. MAISTROS:** Exhibit 10.
 (24) **THE WITNESS:** Oh.
 (25) **MS. FORBES:** Change exhibits.

Page 26

(1) **THE WITNESS:** Okay. And the
 (2) question was?
 (3) **BY MR. MAISTROS:**
 (4) **Q:** Do you see the heading for "Other
 (5) Factors Important to Smoker Satisfaction?"
 (6) **A:** Yes.
 (7) **Q:** And underneath that "Importance Of
 (8) Smoke PH Is Unclear?"
 (9) **A:** Uh-huh.
 (10) **Q:** Notice handwriting on the left says
 (11) "temper this." Do you see the handwriting on the
 (12) left?
 (13) **A:** I see it.
 (14) **Q:** Do you know if somebody is editing
 (15) when it says temper this?
 (16) **A:** Yeah. I see it.
 (17) **MS. FORBES:** Objection to the form.
 (18) **THE WITNESS:** I don't know whose
 (19) handwriting that is. I mean, it could be Walt
 (20) Henley, but I don't know that.
 (21) **BY MR. MAISTROS:**
 (22) **Q:** Up above where it says "Jim Cal,"
 (23) do you know what that's in reference to?
 (24) **A:** Oh, Jim Dickerson and Cal Neumann were two
 (25) of the group leaders under Walt Henley. So, it

Page 263

(1) could be that Walt was writing comments to them.
 (2) **Q:** Was it unusual that Henley would
 (3) edit the documents of somebody such as Pichl?
 (4) **MS. FORBES:** Objection to the
 (5) form. Lacks foundation. Assumes facts not in
 (6) evidence.
 (7) **THE WITNESS:** Yeah, that's
 (8) unusual. Henley reported to Pichl. I don't think
 (9) he would have edited Pichl's memos unless Pichl
 (10) was asking for input.
 (11) **BY MR. MAISTROS:**
 (12) **Q:** There is a Mrs. M.J. Wallace copied
 (13) on Exhibit 11. I hate to keep switching back and
 (14) forth.
 (15) Do you know who M.J. Wallace is?
 (16) **A:** Yeah. Mary Jo Wallace.
 (17) **Q:** Who is she?
 (18) **A:** She is now Mary Jo Dryden.
 (19) **Q:** What did she do at Reynolds?
 (20) **A:** A little bit of everything - kind of like
 (21) me, a little bit of everything. She was a - she
 (22) was a food scientist by education, came in and
 (23) did - I believe maybe doing some kind of smoke
 (24) composition work. When - was over the sensory
 (25) evaluation department at one time. She even

(1) managed a part of the Premier product development
(2) there.

(3) Q: Did she work at all with levulinic
(4) acid?

(5) A: I think when it was being looked at for
(6) Premier it was being done under her management.

(7) Q: Does Exhibit 11, the best you can
(8) tell, appear to be a complete and accurate copy of
(9) a memo that was created at Reynolds?

(10) MS. FORBES: Objection to the
(11) form.

(12) THE WITNESS: Yes. With a cursory
(13) look at the memo it appears to be an R & D
(14) memorandum.

(15) BY MR. MAISTROS:

(16) Q: Would you have kept a copy of this
(17) memorandum in your records when you were employed
(18) at Reynolds?

(19) A: If I was copied on it, I'm sure I kept a
(20) copy, yes.

(21) Q: And you would have done that during
(22) the course of and as part of your practice of
(23) employment at Reynolds?

(24) A: Yes.

(25) Q: Did you keep your records relating

(1) Q: Where did you keep them in your
(2) office?

(3) A: Under special safes that were filing
(4) cabinets, that were in fact safes.

(5) Q: Did you ever go, just out of
(6) curiosity, to the Reynolds library and look up old
(7) research that had been undertaken by people that
(8) were employed before you?

(9) A: Only if I - if it was related to a project
(10) that I was working on.

(11) Q: When you started looking at ways to
(12) analyze blends by chemical composition as opposed
(13) to the art of doing it, did you ever go look in a
(14) library to see if somebody else had explored it?

(15) A: I'm sure I did. That was part of the
(16) scientific work that we did.

(17) Q: And when you looked at ways to
(18) affect nicotine tar ratio to tar nicotine ratios,
(19) did you go back and look at what prior work had
(20) been done?

(21) A: If -

(22) MS. FORBES: Objection to the form.

(23) THE WITNESS: First of all, did I
(24) say that I was working on authoring tar and
(25) nicotine ratios?

(1) to Premier in the same fashion as you would keep a
(2) record such as this?

(3) A: I don't -

(4) Q: Did you store them in any different
(5) fashion?

(6) A: I'm sorry. What?

(7) Q: Your records or memorandum relating
(8) to Premier were they kept in the same fashion as
(9) documents such as this, Exhibit 11?

(10) A: You mean the way I kept them in my file?

(11) Q: Yes.

(12) A: When - as I got older I probably got
(13) better - better at keeping my files on Premier
(14) than I was back at this stage in my career.

(15) Q: Special projects like Premier -
(16) were there any instructions to keep your files in
(17) any sort of different fashion?

(18) A: Oh, okay. A certain way with Premier
(19) because of the top secrecy, yes. Everything was
(20) - we had special safes that couldn't even be
(21) broken into. So, yes, there were some definite
(22) differences in how the files were kept.

(23) Q: Were you allowed to keep copies of
(24) Premier documents in your office?

(25) A: Of course, yes.

(1) MR. MAISTROS: I don't know if you
(2) did.

(3) THE WITNESS: I don't think I did.

(4) MR. MAISTROS: I think you said you
(5) assisted in some fashion.

(6) THE WITNESS: I said peripherally
(7) in some way, but it may have been - just been
(8) putting a blend together. I don't know.

(9) BY MR. MAISTROS:

(10) Q: Did you ever go back and research,
(11) for example, the old patents that had been filed
(12) by Reynolds employees to determine a way of
(13) delivering nicotine separate and apart from
(14) tobacco?

(15) A: Old patents - probably after we - I got
(16) into work on the Premier project I reviewed a lot
(17) of patents. But in these early days of my career
(18) I do not recall looking at patents.

(19) Q: Did you ever file any patents that
(20) you were primarily the author of?

(21) A: At Premier, yes.

(22) Q: Just Premier?

(23) A: Premier and related projects.

(24) Q: Did you ever see any projects where
(25) the idea was developed to sell, for example, life

Page 268

(1) savers coated with nicotine?
(2) A: No.
(3) Q: How about an aerosol spray
(4) containing nicotine?
(5) A: Yes.
(6) Q: Who had thought of that?
(7) A: That's a very generic term. Anybody could
(8) have thought of that. I mean, it was thought
(9) about a lot. The idea was tossed around a lot.
(10) Q: Was a patent developed on that?
(11) A: An aerosol containing nicotine? Well,
(12) Premier would be an aerosol delivery system
(13) containing nicotine.
(14) Q: Who, if you had to identify someone
(15) at Reynolds, was most responsible for the Premier
(16) idea?
(17) A: Jack Sensabaugh, the original scientist.
(18) Q: Is he still around; do you know?
(19) A: Not at Reynolds.
(20) Q: Do you know where he is?
(21) A: He retired.
(22) Q: Are you retired?
(23) A: Yes.
(24) Q: Since you left Reynolds have you
(25) been

Page 270

(1) Q: Did he -
(2) A: He was a second in command under Rodgman.
(3) Q: So, it was just Rodgman above him?
(4) A: Yes.
(5) Q: You're welcome to read the whole
(6) memo, but does it set forth the work you testified
(7) about previously when you had spent some time
(8) looking at moisture in tobacco leaf and its affect
(9) on smoke? That's the title, by the way, in the
(10) upper left-hand corner. And you're mentioned on
(11) the second page, in the second to the last
(12) paragraph.
(13) A: Okay. And your question is does this
(14) detail the work I did?
(15) Q: Does it relate to the work you
(16) testified -
(17) A: It does relate.
(18) Q: - about previously?
(19) A: This is what got most of that work
(20) initiated was this memo.
(21) Q: And part of your work, at least,
(22) was related to trying to explain the correlation,
(23) if anything, between moisture and nicotine
(24) deliveries, correct?
(25) A: Uh-huh.

Page 269

(1) retired - '92?
(2) A: Well, I'd say - I consider myself
(3) retired. I do not draw a pension on retirement
(4) from Reynolds. I no longer work.
(5) Q: You're much too young to be
(6) retired.
(7) A: I needed a break.
(8) Q: You left in 1992, right?
(9) A: Yes.
(10) Q: What was your gross compensation
(11) the year you left?
(12) A: Right at a hundred thousand.
(13) (PLAINTIFF'S EXHIBIT NUMBER 12 WAS MARKED FOR
(14) IDENTIFICATION)
(15) BY MR. MAISTROS:
(16) Q: Exhibit 12 is a May 5th, 1978,
(17) memorandum from a J.P. Dickerson to D.H. Piehl.
(18) A: Uh-huh.
(19) Q: Who is Dickerson?
(20) A: Group leader. My immediate boss.
(21) Q: And Piehl?
(22) A: Manager. Wait a minute. He was maybe a
(23) division manager. I think it was a little
(24) higher - he was a higher level than other
(25) managers I'm talking about.

Page 271

(1) MS. FORBES: Objection to the form.
(2) THE WITNESS: Yes.
(3) BY MR. MAISTROS:
(4) Q: Was that the primary purpose of
(5) your work?
(6) A: No.
(7) Q: What was the primary purpose?
(8) A: To determine if the differences in moisture
(9) levels produced significant differences in
(10) consumer perception.
(11) MR. MAISTROS: Again, in - I
(12) believe, it's 12, isn't it?
(13) MS. KNISELY: No, 13.
(14) MR. MAISTROS: 13.
(15) (PLAINTIFF'S EXHIBIT NUMBER 13 WAS MARKED FOR
(16) IDENTIFICATION)
(17) BY MR. MAISTROS:
(18) Q: May 23rd, 1978. This one does say
(19) it's authored by you and a J.P. Dickerson. And
(20) that's to D.P. Johnson, who is who?
(21) A: Dale Johnson was a manager in the product
(22) development department.
(23) Q: Now, the first paragraph says:
(24) (Reading)
(25) In your May 15th, 1978.

Page 272

(1) memorandum to M.D. Shannon,
(2) you suggest points which
(3) might help explain the
(4) difference in nicotine
(5) deliveries of Winston and
(6) Marlboro.
(7) Do you know what memo that's making
(8) reference to?
(9) A: No, I do not remember getting a memo from
(10) Dale Johnson.
(11) Q: Take your time to read this memo if
(12) you want, but do you recall authoring this memo?
(13) Your signature is on the second page, by the way.
(14) A: Well, let me review it.
(15) (WITNESS READS DOCUMENT)
(16) To tell you the truth, I just
(17) barely remember this memo.
(18) Q: And whether you remember it or not,
(19) does it appear to be an accurate and complete
(20) version -
(21) A: Yes.
(22) Q: - of the memo?
(23) A: Yes.
(24) Q: Kept in the ordinary course of your
(25) employment at Reynolds?

Page 274

(1) Q: That was provided by your former
(2) employer.
(3) Do you see at the top it says RDM
(4) 1979?
(5) A: I - I don't know. I mean, it looks as
(6) though somebody has just made a list of the RDMs
(7) that are being published.
(8) Q: What is an RDM?
(9) A: Research department memorandum.
(10) Q: And do you recognize the writing at
(11) all on here?
(12) A: No. Not at all.
(13) Q: And the second entry, February
(14) 12th, '79, it says -
(15) A: Actually, my guess is that it's - it may
(16) be a library document. Okay, I thought there
(17) were RDM numbers on here. It looks like it may be
(18) a library document that is cataloging numbers that
(19) are being dispersed for these RDMs and keeping up
(20) with the titles. Some of these are marked of. It
(21) looks like RDMs that were aborted.
(22) Q: Do you see the second entry
(23) "Essential Oil Study, Untreated Cased and
(24) Ammoniated Cased KCPS"?
(25) Do you know what that's in

Page 273

(1) A: Yes.
(2) Q: As a business record of Reynolds?
(3) A: Yes.
(4) (PLAINTIFF'S EXHIBIT NUMBER 14 WAS MARKED FOR
(5) IDENTIFICATION)
(6) BY MR. MAISTROS:
(7) Q: Exhibit 14, again, I don't think
(8) it's your handwriting, but it appears to list some
(9) studies you were doing.
(10) A: Uh-huh.
(11) Q: The third one being "Blends
(12) Prepared on the Basis of Chemical Composition."
(13) A: Okay.
(14) Q: Is this relating to your work you
(15) talked about previously?
(16) A: Yes, it is.
(17) Q: Attempting to replace the art of
(18) blending?
(19) A: Yes.
(20) Q: What is this document (indicating):
(21) can you tell? This handwritten multi-page
(22) document.
(23) A: You mean this thing we're looking at?
(24) Q: Yeah.
(25) A: I thought you put it together.

Page 275

(1) reference to?
(2) A: I have an idea what it's in reference to.
(3) I don't have specifics about it.
(4) Q: What is that?
(5) A: Essential oils was a technique for - for
(6) looking at compounds in the tobacco, and in this
(7) case they were using that technique to look at
(8) untreated cased and ammoniated burley cut rough
(9) stems.
(10) (RECESS TAKEN FROM 4:46 P.M. TO 4:55 P.M.)
(11) VIDEOGRAPHER: On record.
(12) (PLAINTIFF'S EXHIBIT NUMBER 15 WAS MARKED FOR
(13) IDENTIFICATION)
(14) BY MR. MAISTROS:
(15) Q: The document I handed you,
(16) depending on your answers, I might not have any
(17) questions about it. Do you know Lynn Kozlowski?
(18) Her name appears - or his name appears under
(19) final report prepared by Lynn Kozlowski, Ph.D.
(20) A: I'm looking for the - oh, there it is.
(21) No, I do not.
(22) Q: Do you recognize any of these names
(23) at the top, C.R. Shuster, Ellen Gritz?
(24) A: Shuster, no; Gritz, no.
(25) Q: I assume you've never seen this

(1) document before?

(2) A: No. I have not seen this document.

(3) Q: Do you recognize the writing in the
(4) upper right-hand corner?

(5) A: No, I do not. In fact, I can't even read
(6) it. I don't recognize it.

(7) Q: All right.

(8) (PLAINTIFF'S EXHIBIT NUMBER 16 WAS MARKED FOR
(9) IDENTIFICATION)

(10) BY MR. MAISTROS:

(11) Q: I'll show you Exhibit 16 - is
(12) dated kind of funny, 1/12/80, at the top.

(13) A: This doesn't have a 15 on it. Does it need
(14) it or does it matter?

(15) MS. FORBES: The court reporter
(16) needs to mark it.

(17) THE WITNESS: All right. That
(18) should have been 15.

(19) MS. FORBES: The lawyer needs to
(20) mark it.

(21) BY MR. MAISTROS:

(22) Q: Exhibit 16 is dated 1/12/80 by
(23) author P.N. Lee.

(24) Do you know a P.N. Lee?

(25) A: No, I do not.

(1) MR. MAISTROS: Well, the little

(2) number at the right means it was produced by
(3) Reynolds, but the big RJR number on the bottom
(4) means that plaintiff's lawyer stamped it.

(5) THE WITNESS: Okay. No, I know
(6) nothing about this study.

(7) BY MR. MAISTROS:

(8) Q: On the second page, underneath the
(9) heading "Survival," it says in the middle of the
(10) paragraph: (Reading)

(11) After taking account of
(12) co-treatment differences, the
(13) incidence of early deaths and
(14) of deaths before termination
(15) was significantly higher in
(16) those groups given nicotine
(17) than those not given nicotine.

(18) A: I - I can't find you on that one there.

(19) Q: All right. Underneath "Survival,"
(20) second page.

(21) A: Right.

(22) Q: It's the third sentence.

(23) A: Oh, okay. There's the "after." Okay.

(24) Sorry.

(25) Q: Uh-huh.

(1) Q: Do you know Professor Mohr,
(2) M-o-h-r?

(3) A: It rings a little bit of a study, but
(4) without more to go on I can't remember anything
(5) about the fella.

(6) Q: Do you know what A-n-t-a-g-o-n-i-s-t is
(7) at the top?

(8) A: I'm looking for it.

(9) Q: First page at the top, upper
(10) right-hand -

(11) A: Oh. No. No.

(12) Q: Do you ever hear of a nicotine
(13) study of Professor Mohr?

(14) A: Not that I can recall.

(15) Q: Were you aware of any research
(16) where 20 groups of 30 Syrian golden hamsters were
(17) treated for 20 weeks according to the schedule
(18) below.

(19) Does any of that ring a bell?

(20) A: BAP - 1 - I - wow. I was just going to
(21) say I didn't believe it was our study, but there
(22) is RJR at the bottom of it.

(23) MS. FORBES: That - that number -

(24) THE WITNESS: Doesn't mean
(25) anything, okay.

(1) Were you aware of any similar
(2) research - granted this isn't your memo. You can
(3) read the whole thing if you want. But the
(4) bottom-line question is, were you aware of any
(5) research that Reynolds was conducting to determine
(6) if there was any similar health risks related to
(7) nicotine?

(8) MS. FORBES: Objection to the
(9) form. He has not had a chance to review this
(10) study.

(11) MR. MAISTROS: I know. You can
(12) review it if you would like.

(13) THE WITNESS: No. I am not aware
(14) of Reynolds doing any studies like this on
(15) nicotine.

(16) BY MR. MAISTROS:

(17) Q: If such studies were undertaken,
(18) what group at Reynolds could I inquire about?

(19) MS. FORBES: Objection to the
(20) form.

(21) BY MR. MAISTROS:

(22) Q: At least when you were there.

(23) A: That would have been the B & B group.

(24) Q: The what?

(25) A: The biochemical biobehavioral group.

Page 280

(1) That's what it was under Wally Hayes; with this
(2) nicotine work being done under John Reynolds and
(3) also under - I've lost his name. I forgot his
(4) name.
(5) Q: Profetti?
(6) A: No.
(7) Q: Lippiello?
(8) A: No.
(9) Q: Robinson?
(10) A: No.
(11) Q: Chinley?
(12) A: No.
(13) Q: Green?
(14) A: No.
(15) Q: Lloyd?
(16) A: No. It was in B & B.
(17) Q: Burger?
(18) A: There was Burger, there was Doolittle,
(19) there was another -
(20) Q: Duphor?
(21) A: Not Duphor.
(22) Q: Mossberg?
(23) A: No.
(24) Q: Colucci?
(25) A: No.

Page 282

(1) but I would have to read more.
(2) Q: Okay. It's not a very long memo.
(3) If you want to take a look at it.
(4) A: Okay. I do not know that I've ever read
(5) this memo before. These results are kind of
(6) surprising to me. I'm having a little trouble
(7) understanding them.
(8) Q: Okay. And
(9) "Conclusions/Recommendations" on the second page,
(10) C. Neumann, the author, states: (Reading)
(11) The apparently paradoxical
(12) result that nicotine intake
(13) increased when mainstream FTC
(14) nicotine was lowered, and that
(15) this lowered nicotine cigarette
(16) was perceived as unsatisfying
(17) and without kick, may strengthen
(18) the bolus theory of smoking; that
(19) is, that smokers primarily desire
(20) a bolus or surge of nicotine on
(21) each puff for smoking
(22) satisfaction.
(23) Is that - again, I asked you that
(24) earlier without this document. Does that refresh
(25) your recollection at all as to what the bolus

Page 281

(1) Q: I'm running out.
(2) A: The only one we're not naming. Anyway,
(3) that - that - if this kind of work was ever done
(4) at Reynolds - well, not ever - I mean, that
(5) group didn't even come into existence until the
(6) mid '80s or something. So, I don't know if this
(7) work was done after that or not.
(8) (PLAINTIFF'S EXHIBIT NUMBER 17 WAS MARKED FOR
(9) IDENTIFICATION)
(10) BY MR. MAISTROS:
(11) Q: Okay. Exhibit 17 is dated January
(12) 6, 1981, from C.L. Neumann to R.A. Lloyd entitled
(13) "Extended Use Testing: Nicotine-Satisfaction."
(14) It says in the first paragraph "Summary":
(15) (Reading)
(16) Substitution of lowered
(17) nicotine test products in
(18) extended use panel testing
(19) resulted in dramatically
(20) increased daily nicotine
(21) intake despite complete
(22) dissatisfaction with the
(23) test product.
(24) Are you aware of this research?
(25) A: I believe that I'm aware of the research.

Page 283

(1) theory was?
(2) A: No. It does not.
(3) Q: Are you familiar with that?
(4) A: No.
(5) Q: In 1981 what group was Neumann in?
(6) A: That - all right. That was after a major
(7) reorganization when research and development were
(8) combined and the research department moved to a
(9) new building. So, he went into a different group
(10) after the reorganization. At that time I was in
(11) QA. So, I'm not sure - I believe it was Applied
(12) Technology.
(13) (PLAINTIFF'S EXHIBIT NUMBER 18 WAS MARKED FOR
(14) IDENTIFICATION)
(15) BY MR. MAISTROS:
(16) Q: Exhibit 18 is a May 7th, 1982, memo
(17) that refers to the attached document which I don't
(18) have. But it's to a whole bunch of people from
(19) E.A. Horrigan.
(20) Who is E.A. Horrigan in May of '82?
(21) A: Ed Argon was the president of the tobacco
(22) company or at least Tobacco International. Very
(23) high level executive.
(24) Q: Now, the first paragraph says:
(25) (Reading)

Page 284

(1) The attached document has
 (2) been prepared to familiarize
 (3) key RJR executives with
 (4) scientifically and legally
 (5) appropriate responses to the
 (6) most frequent questions asked
 (7) about the smoking and health
 (8) controversy. Initial
 (9) distribution is being limited
 (10) to those executives who
 (11) reasonably might find themselves
 (12) in a position of having to
 (13) respond publicly to such
 (14) questions.
 (15) Do you know - or if you've ever
 (16) seen what document this cover-page is referring
 (17) to?
 (18) A: No, I certainly do not know.
 (19) Q: Any of the individuals up above
 (20) listed as being copied on this, do any of those
 (21) individuals have supervisory authority over you?
 (22) A: Bob DiMarco was my vice president. Dr.
 (23) Morse was the vice president right before Bob
 (24) DiMarco.
 (25) Q: Did you ever contribute to any

Page 28

(1) anyone's it was, to not market Premier as a safer
 (2) cigarette?
 (3) MS. FORBES: Objection to the
 (4) form.
 (5) THE WITNESS: I don't believe that
 (6) was one single individual. But if anybody, the
 (7) primary responsibility would have been Dick
 (8) Kampe's.
 (9) BY MR. MAISTROS:
 (10) Q: Do you know if lawyers played any
 (11) role in the decision not to market Premier as a
 (12) safer cigarette?
 (13) A: I'm pretty sure they did.
 (14) Q: Do you know what role they played?
 (15) A: I think they provided a lot of advice and
 (16) counsel.
 (17) Q: In favor of or against marketing
 (18) Premier as a safer cigarette?
 (19) A: Against.
 (20) Q: Do you know why?
 (21) A: Because that would raise a lot of product
 (22) liability issues. It would both raise liability
 (23) issues with our existing products and it would
 (24) also be making almost an implied guarantee of
 (25) safety about Premier that would lead to a lot of

Page 285

(1) document that was used as sort of a briefing memo
 (2) to management?
 (3) MS. FORBES: Objection to the
 (4) form.
 (5) THE WITNESS: Like this, no.
 (6) BY MR. MAISTROS:
 (7) Q: Like this?
 (8) A: No.
 (9) Q: Did you ever attend meetings where
 (10) Horrigan was present?
 (11) A: Yes.
 (12) Q: And in those meetings was the issue
 (13) of nicotine satisfaction from a physiological
 (14) impact ever been discussed?
 (15) A: Not - no. Not in the meetings that I
 (16) attended with him.
 (17) Q: What type of meetings did you have
 (18) with Horrigan?
 (19) A: When I was making presentations to him on
 (20) Premier.
 (21) Q: Now, I believe you testified,
 (22) correct me if I'm wrong or Marilyn will, Premier
 (23) was not marketed as a safer cigarette?
 (24) A: It was marketed as a cleaner cigarette.
 (25) Q: Do you know whose decision, if

Page 28

(1) liability issues down the road.
 (2) (PLAINTIFF'S EXHIBIT NUMBER 19 WAS MARKED FOR
 (3) IDENTIFICATION)
 (4) BY MR. MAISTROS:
 (5) Q: Exhibit 19 is dated February 23rd,
 (6) 1983. It's from Frank Colby to DiMarco. It's
 (7) entitled "Restructured Tobacco Cigarettes.
 (8) Summary": (Reading)
 (9) It is suggested to consider
 (10) a radical, vast, and long-term
 (11) R & D effort towards a new
 (12) style tobacco cigarette which
 (13) would have manageable "desirable"
 (14) smoking properties by removing
 (15) precursors of smoke ballast
 (16) components. It is further
 (17) suggested to have such
 (18) cigarettes based on
 (19) non-destructive distillation
 (20) rather than pyrolysis.
 (21) Have you seen this memo before?
 (22) A: I don't believe I have.
 (23) Q: Do you know whose handwriting is in
 (24) the upper right-hand corner that says "preliminary
 (25) meeting to discuss "safer cig"?

Page 288

(1) A: It kind of looks to me like that might be
(2) Don Piehl's writing. That's my best guess.
(3) Q: As you read these - you can read
(4) it if you want. The memorandum goes on to talk
(5) about this new product. I guess my question is,
(6) in '83 would this have been discussing the Premier
(7) cigarette?
(8) A: Would it have been what?
(9) Q: Discussing the Premier cigarette.
(10) A: Was this talking about the Premier
(11) cigarette? Considering the stage at which the
(12) Premier project was at this point, I'm not even
(13) sure that it had been reduced to practice. So, I
(14) don't think it directly spoke to the Premier
(15) project.
(16) Q: Okay. Underneath "Memorandum" it
(17) says: (Reading)
(18) The basic concept is that,
(19) in order to develop a novel,
(20) manageable, smoking product,
(21) it is important to remove all
(22) or most smoke components and
(23) their precursors which impair
(24) or do not contribute to the
(25) enjoyment of smoking. "Enjoyment"

Page 289

(1) being defined here (see also
(2) below) as including a justifiable
(3) perception by the public of a
(4) product considered as being
(5) acceptably "safe", even though
(6) I believe that the degree of
(7) risk, if any, from smoking
(8) current cigarettes is a matter
(9) of controversy (which means
(10) that cigarettes can neither
(11) be incriminated nor exonerated).
(12) Were you aware in 1983 that
(13) Reynolds was attempting to develop a product that
(14) had a "justifiable perception" as being - by the
(15) public, as being safe?
(16) MS. FORBES: Objection to the form.
(17) THE WITNESS: Well, yes. If I'm
(18) reading this correctly, I do assume that that is
(19) what we were trying to do with the GP project or
(20) the Premier project at that time.
(21) BY MR. MAISTROS:
(22) Q: Do you know if Reynolds ever did
(23) any studies to determine if the public perceived
(24) ultra low cigarettes as being safer than regular
(25) cigarettes?

Page 290

(1) A: Whether they've done - whether they did
(2) studies on that? I would guess they had some kind
(3) of market research on that, but I don't know of
(4) any specific information.
(5) Q: You don't know the results of any
(6) such studies?
(7) A: No.
(8) Q: Did you know separate and apart
(9) from studies, based on your own personal work at
(10) Reynolds or interacting with the public, do you
(11) know if the public believed that ultra low
(12) cigarettes are safer for them than regular
(13) cigarettes?
(14) MS. FORBES: Objection to the
(15) form. Overbroad.
(16) THE WITNESS: Yes, I think the
(17) public do - does believe that ultra low tar
(18) cigarettes are safe.
(19) BY MR. MAISTROS:
(20) Q: Do you believe that ultra low tar
(21) cigarettes are safer than regular cigarettes?
(22) A: Than higher tar cigarettes?
(23) Q: Uh-huh.
(24) A: Yes, I guess I do.
(25) Q: And what is that based on?

Page 291

(1) A: The fact that lower levels of tar nicotine
(2) gaseous compounds are delivered to the smoker and,
(3) of course, only reasonable to believe that with
(4) the lower deliveries the smoker would be inhaling
(5) a lower quantity of compounds that would - could
(6) cause problems.
(7) Q: Do you know if Reynolds undertook
(8) any tests to determine if ultra low cigarettes
(9) were any "safer" than regular full flavor
(10) cigarettes?
(11) MS. FORBES: Objection to the
(12) form.
(13) THE WITNESS: Not that I can
(14) recall.
(15) BY MR. MAISTROS:
(16) Q: Now, this author goes on to note in
(17) the second paragraph: (Reading)
(18) This memorandum is also
(19) based on the premise that for
(20) the foreseeable future,
(21) selective removal or drastic
(22) reduction of more than a handful
(23) of specific, non-gas phase,
(24) cigarette smoke components,
(25) while maintaining consumer

(1) acceptability, is technologically
(2) impossible.
(3) Do you agree with that statement as
(4) it was made in February of '83?
(5) MS. FORBES: Objection to the form.
(6) THE WITNESS: Yes. I do agree with
(7) that statement.
(8) BY MR. MAISTROS:
(9) Q: Was it still true when you left
(10) Reynolds?
(11) A: Yes.
(12) Q: Do you think it's still true today?
(13) A: Yes.
(14) Q: (Reading)
(15) It is further based on
(16) the premise that the
(17) following factors determine
(18) most, if not all, of the
(19) enjoyment derived from
(20) cigarette smoking by
(21) today's smoker.
(22) Then there is five factors listed.
(23) Do you agree with those five
(24) factors, the first one being "Physiological
(25) effects provided by nicotine"?

(1) of the smoker and a clear
(2) majority of the scientific
(3) community.
(4) Do you know if that judgment was
(5) carried out by any others, other than Colby in the
(6) '83 time period?
(7) A: If that judgment?
(8) Q: Yeah. He says "my judgment".
(9) MS. FORBES: Objection to the form.
(10) THE WITNESS: All right. Will
(11) you - maybe I'm getting tired. Could you
(12) rephrase that question.
(13) BY MR. MAISTROS:
(14) Q: The document - I don't - I
(15) don't - I want to read it because I don't want to
(16) imply what it's stating. But it appears that
(17) Colby is stating that in his opinion, the company
(18) has to develop cigarettes which have an acceptable
(19) perceived risk in the mind of the smoker?
(20) A: Uh-huh.
(21) Q: Do you see why I'm saying that?
(22) A: Yes.
(23) MS. FORBES: Objection
(24) BY MR. MAISTROS:
(25) Q: Do you know if others -

(1) A: Yes.
(2) Q: Then "The aroma provided by tobacco
(3) flavorants"?
(4) A: Yes. I would say it was important.
(5) Q: And then "The perceptual stimulus
(6) provided by the smoke plume; and possibly the
(7) texture feeling provided by the smoke."
(8) Do you - do you agree with that?
(9) A: I agree with what - I agree with the
(10) statements; I don't agree with the amount of
(11) importance he's attaching to each.
(12) Q: Do you agree with the first one
(13) "The physiological effects provided by nicotine"
(14) as being the most important listed as the first
(15) one?
(16) A: Yes.
(17) Q: Number E says: (Reading)
(18) It is my judgment - it
(19) is, in my judgement, imperative
(20) for the company and the industry
(21) to develop cigarettes which,
(22) in addition to A - D above,
(23) carry an acceptable, if any,
(24) perceived (perceived is
(25) underlined), risk in the mind

(1) MS. FORBES: Objection.
(2) BY MR. MAISTROS:
(3) Q: - other than Colby expressed that
(4) opinion at Reynolds in 1983?
(5) MS. FORBES: Objection.
(6) THE WITNESS: Yes. I think so.
(7) BY MR. MAISTROS:
(8) Q: Do you know if work was undertaken
(9) to develop a cigarette that had a perceived risk,
(10) that it was safer in the minds of consumers?
(11) A: Yes. In '83, yes.
(12) Q: What was Colby's reputation at
(13) Reynolds?
(14) A: To tell you the truth, I was shocked to see
(15) his name on here. I did not think Frank Colby was
(16) still in R & D in 1983. I don't remember him
(17) being a full-time employee at that time at all. I
(18) thought he had retired.
(19) Q: Do you know what his reputation
(20) was?
(21) A: There were stories about him being odd,
(22) non-talkative, non-communicative, but if you mean
(23) his technical capabilities, I'm not sure that I
(24) heard anything about that one way or the other.
(25) (PLAINTIFF'S EXHIBIT NUMBER 20 WAS MARKED FO

February 2, 1998

LORILLARD TOBACCO COMPANY

Page 298

Page 298

IDENTIFICATION)

BY MR. MAISTROS:

Q: Exhibit 20 is dated April 13th, 1983. It's from L.G. Dube, D-u-b-e, to Mr. Dufour. Who are these two gentlemen?

A: L.G. Dube is Lynn Dube. That's - that's a woman. And then W.M. Dufour is Walt Dufour and Walt Dufour has had various management positions. They were developing products.

Q: Were you aware that in this time period that the Neumann and Wallace - well, I'm sorry. The document refers to a study by Neumann and Wallace in '79 called the Nicotine Satisfaction Consumer Study.

A: Uh-huh.

Q: And they found that: (Reading)

Cigarette strength was found to be nicotine and pH dependent, increasing with both increasing nicotine and increasing pH."

Were you aware of that work?

A: Let me read this a second.

Q: Second paragraph.

A: Vaguely I maybe remember that.

Q: Okay. The next paragraph refers to

Q: Was it regarded as being true by management at Reynolds when you left?
MS. FORBES: Objection to the form.
THE WITNESS: I think so.

BY MR. MAISTROS:

Q: And the last page of this the author states: (Reading)

Study results also indicated that the perception of draw might be satisfaction-related. That is, as nicotine delivery and, thus, satisfaction increased, consumers perceived the cigarette as easier to draw, without much influence of moisture.

Were you aware that that was the case in 1983?

MS. FORBES: Objection to the form.

THE WITNESS: I'm not sure that I knew that specifically or that there was data to show that specifically. I think I may have had that opinion.

BY MR. MAISTROS:

Q: Do you know what - was it Dube -

Page 297

Page 299

work you did in 1980 on Winston moisture optimization?

A: Uh-huh.

Q: And the third paragraph says: (Reading)

Based on data obtained from the most recent FFNM RSM Study (1982-83) where another air-diluted WKS prototype was used and nicotine and moisture levels were varied, it was determined that nicotine is the predominant influence in satisfaction/acceptance and strength-related attribute ratings for full flavored smokers.

To the best of your knowledge, was that true in 1983?

A: Yes.

Q: And was it true when you left?

A: In my opinion, yes.

Q: And was it generally regarded as being true by other scientists at Reynolds when you left?

A: I think so.

what Dube's reputation was at Reynolds?

A: Good solid scientist, fairly young, low in experience at that point in time.

(PLAINTIFF'S EXHIBIT NUMBER 21 WAS MARKED FOR IDENTIFICATION)

BY MR. MAISTROS:

Q: Exhibit 21 is titled on the front page - it just says "Biobehavioral"; and the second page it's got a date of May 17th, '83.

A: Uh-huh.

Q: And it outlines a program called Biobehavioral Research, and it lists the manager as J.H. Reynolds, the director as Alan Rodgman, and the author as J.H. Reynolds?

A: Uh-huh.

Q: Were you aware of the Biobehavioral Research Program in May of 1983?

A: Yes. Yes. It's coming back to me; yes.

Q: The background says: (Reading)

The Biobehavioral Research Program is a multi-disciplinary program designed to yield knowledge about the physiological, psychological and behavioral aspects of tobacco product use.

(1) with emphasis on smoking. It
 (2) includes projects dealing with
 (3) detailed smoking behavior, the
 (4) physiology and pharmacology of
 (5) nicotine, and the
 (6) psychophysiological effects
 (7) of smoking.
 (8) Were you aware that that was the
 (9) purpose of the Biobehavioral Research Program?
 (10) A: Now that I - yes, I recall that now.
 (11) Q: Were you aware, as you read down,
 (12) below that the financial goals of this program was
 (13) to "Support the achievement of annual increases in
 (14) cigarette share-of-market by the development of
 (15) technologically-based product advantages which
 (16) address significant consumer wants?"
 (17) MS. FOLGER: Objection to the form.
 (18) THE WITNESS: Generic statement.
 (19) yes.
 (20) BY MR. MAISTROS:
 (21) Q: Now, was the Biobehavioral Research
 (22) Group within research or development?
 (23) A: By 1983 those had been combined as R & D
 (24) one unit, one building.
 (25) Q: Did you - as you turn the second

(1) page, there is some other goals listed at the top
 (2) of this page. One is "Support the company's
 (3) efforts to deal responsibly with external
 (4) influences. (RJRT- Key Issue 5)."
 (5) Do you know what a key issue is?
 (6) A: I'm sure that that was the planning system
 (7) that we were working under at the time. And, of
 (8) course, that changed over the years. But that
 (9) would have been one of the key issues in the
 (10) strategic plan for the company as a whole. That's
 (11) why the RJRT is there.
 (12) Q: These four programs, A, B, C,
 (13) D - do you see that?
 (14) A: Yes.
 (15) Q: "Smoke Component Dose, Blood
 (16) Chemistry, Nicotine Receptor Pharmacology, and
 (17) Psychophysiology of Smoking."
 (18) Were you aware that all of those
 (19) programs were developed to increase the sale of
 (20) cigarettes by Reynolds?
 (21) MS. FORBES: Objection to the
 (22) form. Mischaracterizes.
 (23) THE WITNESS: No. I was not aware
 (24) of that.
 (25) BY MR. MAISTROS:

(1) Q: Were you aware of those different
 (2) projects?
 (3) A: In '83? Hold on. Yes. Although I think
 (4) some of them were definitely in their infancy.
 (5) Yes, I - I was aware of them.
 (6) Q: And is it fair to say that these
 (7) projects were under the research component of the
 (8) Research and Development Division at Reynolds at
 (9) this time?
 (10) A: I think so. That's fair to say.
 (11) Q: And that these four projects,
 (12) whoever was heading them up, all had as discreet
 (13) objectives analyzing Smoke Component Dose, Blood
 (14) Chemistry, Nicotine Receptor Pharmacology, and
 (15) Psychophysiology of Smoking?
 (16) MS. FORBES: Objection to the
 (17) form.
 (18) THE WITNESS: Yes.
 (19) BY MR. MAISTROS:
 (20) Q: And were you aware that those
 (21) projects were carried out?
 (22) A: To the best of my knowledge.
 (23) Q: And were you aware before today
 (24) that they were done for the purpose in part of
 (25) increasing the annual sale of cigarettes by

(1) Reynolds?
 (2) MS. FORBES: Objection to the
 (3) form. Mischaracterizes. Lacks foundation.
 (4) MR. MAISTROS: Well, I think the
 (5) foundation is the typed-stated - first number one
 (6) goal of this project was: (Reading)
 (7) Support the achievement of
 (8) annual increases in cigarette
 (9) share-of-market by the
 (10) development of technology-based
 (11) product advantages which address
 (12) significant consumer wants.
 (13) MS. FORBES: Motion to strike.
 (14) Same objection.
 (15) MR. MAISTROS: You wanted a
 (16) foundation. I was giving it to you.
 (17) BY MR. MAISTROS:
 (18) Q: Were you aware of that before
 (19) today?
 (20) MS. FORBES: Same objection.
 (21) THE WITNESS: That this work was
 (22) being done for that reason. No, I was not aware
 (23) of that report.
 (24) BY MR. MAISTROS:
 (25) Q: Does that surprise you, though?

Page 304

(1) MS. FORBES: Objection. Calls for
(2) speculation. Argumentative.
(3) MR. MAISTROS: The reason I asked
(4) that - I don't want to be argumentative, but
(5) earlier today you testified that none of the
(6) research - conducted by the research - are an
(7) external purpose of increasing the sale of
(8) cigarettes.
(9) MS. FORBES: Same objection.
(10) THE WITNESS: My - my view is that
(11) somebody wrote this document. They had some
(12) research work they had to do. They had to find a
(13) part of the corporate strategic plan to stick it
(14) under and have an objective, and so they pulled
(15) out the verbage. I just - I don't think that
(16) they were doing that work thinking they were going
(17) to increase share of market with the results. I
(18) just don't believe that.
(19) BY MR. MAISTROS:
(20) Q: Did you know Dr. Reynolds?
(21) A: Oh, yes; very well.
(22) Q: And what was his reputation at
(23) Reynolds?
(24) A: Excellent.
(25) (PLAINTIFF'S EXHIBIT NUMBER 22 WAS MARKED FOR

Page 305

(1) memo.
(2) MS. FORBES: Same objections and
(3) motion to strike.
(4) THE WITNESS: Okay. I was not
(5) aware that this work was being done for these
(6) reasons. That was your question, I believe.
(7) (PLAINTIFF'S EXHIBIT NUMBER 23 WAS MARKED FOR
(8) IDENTIFICATION)
(9) BY MR. MAISTROS:
(10) Q: Exhibit 23 is also dated May 11th,
(11) 1983. It's by Reynolds to Robinson. It's
(12) entitled "Blood Chemistry. Supports program:
(13) Fundamental Research, Biobehavioral Research." And
(14) it says: (Reading)
(15) The study of the blood
(16) chemistry of smokers is
(17) important for two reasons.
(18) Smoke components such as
(19) nicotine are known to have
(20) physiological and psychological
(21) effects upon the smoker. The
(22) exact amounts of these materials
(23) in the bloodstream of the smoker
(24) at any given time must be known
(25) in order to understand how

Page 306

(1) IDENTIFICATION)
(2) BY MR. MAISTROS:
(3) Q: Exhibit 22 is dated May 11th,
(4) 1983. It's entitled "Smoke Component Dose."
(5) Outlines the author as J.H. Reynolds and it
(6) supports the program Fundamental Research. And
(7) the goal - technical goal is to: (Reading)
(8) Develop/improve means to
(9) accurately determine the doses
(10) of nicotine and other smoke
(11) components to smokers through
(12) the use of in-house expertise
(13) and outside consultants or firms.
(14) (And the commercial goal is)
(15) Arrest the declining social
(16) acceptability of smoking.
(17) Were you aware that this research
(18) was being done for that purpose in 1983?
(19) MS. FORBES: Objection to the
(20) form. Lacks foundation.
(21) THE WITNESS: That's mine.
(22) MS. FORBES: Assumes facts not in
(23) evidence.
(24) MR. MAISTROS: I think you've had a
(25) couple of witnesses testify to the accuracy of the

Page 307

(1) these effects come about.
(2) The physiological and
(3) psychological effects are
(4) mediated through other
(5) substances in the body, such
(6) as hormones and neurotransmitters.
(7) Therefore, the circulating
(8) levels of these substances must
(9) also be known.
(10) Were you aware that Reynolds was
(11) doing this research in 1983 for the commercial
(12) goal of "arresting the decline in social
(13) acceptability of smoking"?
(14) MS. FORBES: Objection. Lack of
(15) evidence. Lack of foundation. Assumes facts not
(16) in evidence.
(17) THE WITNESS: I was aware that he
(18) was doing this work. I was not aware of that
(19) being the goal of that work.
(20) (PLAINTIFF'S EXHIBIT NUMBER 24 WAS MARKED FOR
(21) IDENTIFICATION)
(22) BY MR. MAISTROS:
(23) Q: Exhibit 24 is also dated May 11th,
(24) 1983. It's entitled "Nicotine Receptor
(25) Pharmacology." Author: Reynolds; project leader.

(1) Lippiello. And the goal - technical goals are
(2) cited as: (Reading)

(3) By 1984, have established
(4) an ongoing, state-of-the-art
(5) project for investigation of
(6) nicotine receptor pharmacology.
(7) By 1986 have testable
(8) hypotheses which relate the
(9) biochemistry of nicotine/neuronal
(10) cell interactions to observable
(11) psychophysiological effects of
(12) nicotine.

(13) And the "Commercial" goal in typing
(14) is "Arrest the declining social acceptability of
(15) smoking," and in handwriting "new products
(16) resulting from enhancement of benefits."

(17) Were you aware that this project
(18) was undertaken with those commercial goals?

(19) A: No, I was not.

(20) MS. FORBES: Same objections.

(21) (PLAINTIFF'S EXHIBIT NUMBER 25 WAS MARKED FOR
(22) IDENTIFICATION)

BY MR. MAISTROS:

(24) Q: Exhibit 25 is also dated May
(25) 13th - or is dated May 13th, 1983. It's from

(1) Q: Exhibit 26 is dated December 19th,
(2) 1984. It's to you. It's from Biobehavioral R & D
(3) and it's entitled "Special Project."

(4) And the first sentence says - by
(5) the way, the secret stamp is by John Reynolds. I
(6) don't know if that means he sent it to you or if
(7) you can tell by the document, but the first
(8) sentence might help you. It says: (Reading)

(9) At the request of the New
(10) Brands Division a study was
(11) conducted to compare plasma
(12) nicotine levels of smokers
(13) before, during, and after
(14) smoking each of two test products.
(15) And it goes on to describe the
(16) experiment. Do you know what this is in relation
(17) to?

(18) A: Uh-h. Just a second. Let me scan this.

(19) This was the test I told you about
(20) earlier where we did look at Premier products, the
(21) delivery of the nicotine from the Premier
(22) products, to compare the absorption of that
(23) nicotine into the bloodstream versus what would
(24) happen with the traditional tobacco burning
(25) cigarette.

(1) Reynolds. "Psychophysiology of Smoking" is the
(2) project and the "Supports Program: Fundamental
(3) Research," and says: (Reading)

(4) (The technical goal) By 1990
(5) have knowledge and expertise
(6) in regard to the effects of
(7) tobacco use on the
(8) psychophysiological state of
(9) the consumer, including
(10) interactions with, for example,
(11) personality traits, emotions,
(12) stress, short term activity
(13) level and life-style factors
(14) superior to competition.

(15) Commercial Goal is "Arrest the
(16) declining social acceptability of smoking."

(17) Were you aware that this program
(18) was being undertaken to arrest the declining
(19) social acceptability of smoking?

(20) MS. FORBES: Objection. Lack of
(21) foundation. Assumes facts not in evidence.

(22) THE WITNESS: No, I was not.

(23) (PLAINTIFF'S EXHIBIT NUMBER 26 WAS MARKED FOR
(24) IDENTIFICATION)

BY MR. MAISTROS:

(1) Q: And again why were you doing this
(2) research?

(3) A: To determine if nicotine would be absorbed
(4) in the bloodstream for a smoker smoking a Premier
(5) product in a manner comparable to the absorption
(6) of nicotine in the bloodstream of a smoker smoking
(7) a traditional tobacco burning cigarette.

(8) Q: And is one of the purposes of that
(9) to determine if the nicotine delivered by Premier
(10) would have the same physiological effect as
(11) nicotine delivered by a regular cigarette?

(12) A: Yes.

(13) Q: Is one of the purposes of this test
(14) to make certain that the Premier in nicotine was
(15) delivered in a fashion similar to a nicotine
(16) delivery in the regular cigarette?

(17) MS. FORBES: Objection to the form.

(18) THE WITNESS: Was it to make
(19) certain? I don't think - no. This one test
(20) wouldn't have helped us to be certain.

(21) BY MR. MAISTROS:

(22) Q: Was it one of the goals of the
(23) Premier research in the end when all was said and
(24) done to make certain the nicotine delivered a
(25) sufficient amount of nicotine to provide the

(1) required physiological effect?

(2) MS. FORBES: Objection to the form.

(3) THE WITNESS: Yes.

(4) MR. MAISTROS: The end is in

(5) sight. I got to give you help.

(6) (PLAINTIFF'S EXHIBIT NUMBER 27 WAS MARKED FOR
(7) IDENTIFICATION)

(8) BY MR. MAISTROS:

(9) Q: This memo is dated January 29th,
(10) 1985. It's from W.J. Casey to you. Who is Casey?

(11) A: Bill Casey was a senior scientist or senior
(12) staff scientist at this time - and Dr. Casey.

(13) Q: What is the - what is TGA? It

(14) says "Subject:TGA Report."

(15) A: That was an early name for the Premier
(16) project, was TGA. It stood for Thermally
(17) Generated Aerosol.

(18) Q: Do you know what - you can read
(19) the whole memo if you'd like, but can you tell
(20) from the introductory paragraph what this memo is
(21) about?

(22) A: Just a second.

(23) Okay. Yes. I generally remember
(24) what this is about.

(25) Q: What was it about?

(1) nicotine malate did not deliver

(2) significantly higher nicotine

(3) than tobacco with no added

(4) nicotine.

(5) A: I don't know. I mean, I don't think -

(6) frankly, I don't think KTB is significant. I

(7) think I would remember it if it were.

(8) (PLAINTIFF'S EXHIBIT NUMBER 28 WAS MARKED FOR
(9) IDENTIFICATION)

(10) BY MR. MAISTROS:

(11) Q: Okay. 28 is dated - I'm not sure

(12) it's dated, but it's a memo "Report of Meeting" on
(13) August 21st, 1987, at Weisburger Associates.

(14) You're not listed as being present, but were you
(15) aware of this meeting that was held at Weisburger
(16) at White Plains, New York, in August of '87?

(17) A: I'm sure I probably was aware of it.

(18) Q: These people that are listed here,

(19) were they all involved with Premier?

(20) A: Yes.

(21) Q: On the -

(22) A: They were - they were all toxicologist who
(23) were involved with the toxicological testing on
(24) Premier.

(25) Q: And the second to the last page the

(1) A: Problems that we've talked about today of
(2) nicotine delivery from the Premier prototypes
(3) tending to peak on some of the high puffs and
(4) making the prototypes unpalatable. And in this
(5) work Bill Casey was doing some modifications and
(6) manipulations trying to make the nicotine more
(7) palatable.

(8) Q: What is the reference to on the
(9) third page - do you see "Additive on Tobacco?"

(10) A: Uh-huh.

(11) Q: What is the KPB tobacco?

(12) A: The K is probably for burley, but PB I
(13) don't - that does not ring a bell.

(14) Q: It wouldn't be, at this stage,
(15) burley Premier blend?

(16) A: Oh, no. No. No. There was no such thing
(17) as Premier at this time.

(18) Q: And I don't know if it helps you,
(19) but he goes on - mentions it again on the second
(20) to the last page in the second to last paragraph.

(21) (Reading)

(22) Table X shows the nicotine
(23) delivery for several different
(24) tobaccos. A surprising feature
(25) was that KPB tobacco with added

(1) author states that: (Reading)

(2) The nicotine levels in Alpha
(3) Product are also somewhat lower
(4) than in many standard products.

(5) However, it has been shown
(6) with standard cigarettes of
(7) varying nicotine output that
(8) smokers tend to compensate use
(9) pattern in order to ensure a
(10) certain specific blood level.

(11) Your group has performed detailed
(12) studies in this area including
(13) mechanism studies on

(14) pharmacokinetics of infused
(15) nicotine. It appears clear that
(16) Alpha Product offers the user
(17) nicotine in a manner that will
(18) be not too dissimilar from that
(19) of other cigarettes but at a
(20) lower level, yet sufficiently
(21) high that the alleged
(22) pharmacological requirement
(23) is met.

(24) It's a long paragraph, but do you
(25) agree with all that?

(1) A: Yes.
 (2) Q: That was true to the best of your
 (3) knowledge of Premier?
 (4) A: Yes.
 (5) MS. FORBES: Objection to the form.
 (6) THE WITNESS: Well, I would say
 (7) that was true of this prototype at this time it
 (8) was tested.
 (9) BY MR. MAISTROS:
 (10) Q: Okay. How - this refers to in the
 (11) second paragraph that: (Reading)
 (12) The agenda dealt with a
 (13) presentation by RJR Staff
 (14) of research undertaken on
 (15) comparative toxicological
 (16) properties of Alpha Product
 (17) and a reference IRF4.
 (18) A: Uh-huh.
 (19) Q: August 21st, '87, would have been
 (20) pretty close in time?
 (21) A: Yes it - it was pretty close. So, that
 (22) was probably really close to being the market
 (23) product if not the market product.
 (24) (PLAINTIFF'S EXHIBIT NUMBER 29 WAS MARKED FOR
 (25) IDENTIFICATION)

(1) couple of pages, do you see your name in the box
 (2) at the top (indicating)?
 (3) A: Yes.
 (4) Q: Who are these people under you?
 (5) A: Lyle O'Connor, Ernie Farrier, and Tom
 (6) Gentry?
 (7) Q: Yes.
 (8) A: Well, it continues on the next page; Jack
 (9) Clearman, Dick Haberkern. You want to know who
 (10) the people are? Do you want me to describe them?
 (11) Titles?
 (12) Q: Well, underneath Haberkern, for
 (13) example, it says "Sprayed dried/nicotine fuel
 (14) source."
 (15) What does that mean?
 (16) A: Dick Haberkern was over - he actually
 (17) worked in PT&D, which was Process, Technology and
 (18) Development. He was an engineer and he was
 (19) developing the processes for us. He was
 (20) developing the spray dried extract process and the
 (21) fuel source making process.
 (22) Q: He did both the spray dried extract
 (23) and the fuel source?
 (24) A: Yes; because those - the processes to make
 (25) those - he was a process engineer.

(1) BY MR. MAISTROS:
 (2) Q: 29 is an organizational chart.
 (3) "Project Alpha Organizational Structure." First
 (4) page says G.W. McKenna?
 (5) A: Uh-huh.
 (6) Q: What - what was his title?
 (7) A: Let me think now because for a brief time
 (8) period Dick Kampe left and was heading up
 (9) something in the tobacco company. So, Gerry
 (10) McKenna was in charge of Alpha. So, at this point
 (11) in time it looks like Gerry McKenna was in charge
 (12) of the Alpha, which was an early Premier project.
 (13) Q: And underneath Research and
 (14) Development was Lloyd?
 (15) A: Yes.
 (16) Q: The first one under him was you,
 (17) right?
 (18) A: Yes.
 (19) Q: If you go to the second page.
 (20) A: Yes. Yes.
 (21) Q: So, in terms of Research and
 (22) Development, Lloyd was number one and you were
 (23) number two on project Alpha?
 (24) A: Yes.
 (25) Q: Underneath - keep going. In a

(1) Q: Okay. This refers to the spray
 (2) dried nicotine as opposed to the tobacco extract.
 (3) What was it - was a tobacco extract applied to
 (4) those little beads or was it spray dried nicotine?
 (5) A: Well, they're using the slash there to
 (6) imply that it's both.
 (7) Q: It's both what?
 (8) A: It's both - it's both spray dried - it's
 (9) a spray dried extract with nicotine in it.
 (10) Q: When it's - you said that was a
 (11) concentrated extract.
 (12) A: Yes.
 (13) Q: What was the single largest
 (14) component of that extract in terms of chemical
 (15) compounds?
 (16) A: It would either have been sugar or nicotine
 (17) and I do not remember which.
 (18) Q: Do you - do any of these documents
 (19) help you at all - they don't help me. I'm not
 (20) suggesting that they should help you - tell you
 (21) why you got this extract - tobacco extract that's
 (22) used in Alpha?
 (23) MS. FORBES: Objection to the form.
 (24) THE WITNESS: Yeah. You mean which
 (25) tobaccos we got it from?

Page 320

BY MR. MAISTROS:

(1) Q: I mean, was there a separate plant
(2) set up to make this extract?
(3) A: We didn't have time to build plants. There
(4) was an existing plant that we were able to use the
(5) space in the facility to locate the - this
(6) equipment.
(7) Q: And the extract that was applied in
(8) the Premier product had nothing to do with the KDN
(9) by-product?
(10) A: No, it did not. Again, that did not meet
(11) our timetable. That was as of quite a few years
(12) ago. I don't know about now.
(13) Q: How was the extraction carried out
(14) for Premier that was different from KDN? I mean,
(15) KDN did have a product that was extracted from
(16) it.
(17) MS. FORBES: Objection to the form.
(18) THE WITNESS: It's an ammonia
(19) extraction that's purely - that's pretty purely
(20) nicotine only, pretty exclusively targeting at
(21) removing nicotine. The spray dried extract is a
(22) water extract of tobacco, and it gets a lot of the
(23) compounds that are in the tobacco.
(24) BY MR. MAISTROS:

Page 322

IDENTIFICATION)

BY MR. MAISTROS:

(1) Q: I'll show you a document and just
(2) ask you if you know what it is, because it's not
(3) very clear to me. It's a 3-page document that
(4) just lists - the first page is
(5) "Acknowledgements," second page says
(6) "Appendices," and third says "Action Steps."
(7) Does any of this look familiar?
(8) I'm particularly interested in the
(9) third page, the Action Steps.
(10) A: I - my guess would be that this was for
(11) the XB project.
(12) MS. FORBES: You don't have to
(13) guess.
(14) THE WITNESS: I - I don't know.
(15) BY MR. MAISTROS:
(16) Q: And XB was what again?
(17) A: The project looking at growing tar while
(18) leaving nicotine elevated.
(19) Q: Did you do any of the work such as
(20) determining nicotine transfer and tar nicotine
(21) changes using the following addition: Essence -
(22) essence plus levulinic acid; nicotine levulinate
(23) to five tobacco types?

Page 321

(1) Q: And how was that - how was the
(2) extraction process for Premier different?
(3) A: I think -
(4) MS. FORBES: Objection to the form.
(5) THE WITNESS: I thought I just
(6) answered that question.
(7) BY MR. MAISTROS:
(8) Q: I know how the substance was
(9) different in the end, but was the mechanics of
(10) getting that substance out different than the KDN
(11) process?
(12) A: Oh, very different. Very different.
(13) Q: How did you get the extract out for
(14) Premier?
(15) A: It was a water extract. Do you mean the
(16) process for doing that?
(17) Q: Yeah. Like, for example, did you
(18) apply ammonia to tobacco to liberate the nicotine
(19) or the extract?
(20) A: No. I don't believe so. I'm fuzzy on
(21) that; but I believe it's pretty strictly - pretty
(22) strictly pouring water over tobacco and allowing
(23) it to set and then taking that liquid and
(24) concentrating it by spray drying it.
(25) (PLAINTIFF'S EXHIBIT NUMBER 30 WAS MARKED FOR

Page 323

(1) A: No, I did not.
(2) Q: Do you know what the difference
(3) between essence and levulinic acid is?
(4) A: That's why I'm remarking on the term.
(5) Essence is very unusual. I don't know that I've
(6) ever seen that or heard that. That's not a
(7) tobacco term. It's very unusual. So, I don't
(8) know anything about that.
(9) (PLAINTIFF'S EXHIBIT NUMBER 31 WAS MARKED FOR
(10) IDENTIFICATION)
(11) BY MR. MAISTROS:
(12) Q: Exhibit 31 is entitled "R & D
(13) Strategic Plan '91 to '95." Did you ever see this
(14) particular plan?
(15) A: I believe that I've seen this particular
(16) program, but these do tend to run together.
(17) Q: Did you ever participate, in any
(18) manner, in compiling this plan?
(19) A: Well, my part of R & D work would be in
(20) this plan, yes. That contribution would be in
(21) here.
(22) Q: Were these plans presented orally
(23) to employees or were they just passed out?
(24) A: I believe they were just passed out. There
(25) may have been some kind of meeting to present

(1) overview of this strategic plan to all of R & D,
 (2) so that people were working on the same page, so
 (3) to speak.
 (4) Q: As you go in and there's big
 (5) numbers - RJR numbers in the lower right-hand
 (6) corner. These are easier to find than those
 (7) little numbers?
 (8) A: Yes.
 (9) Q: Do you see RJR 23207? 23207.
 (10) A: Yes, I've got that.
 (11) Q: On the top it says - on the left
 (12) "Tobacco Ingredients."
 (13) A: Uh-huh.
 (14) Q: "Develop high nicotine sheet for
 (15) low tar/nicotine program."
 (16) Do you know what that's in
 (17) reference to?
 (18) A: No, I don't recall.
 (19) Q: Underneath "Tobacco Leaf
 (20) Technology. Develop improved varieties with low
 (21) or high nicotine."
 (22) Do you know if that work was
 (23) undertaken?
 (24) A: Do I know if it was undertaken? I - I
 (25) don't know.

(1) ring a bell?
 (2) A: Solids. Something like that.
 (3) Q: Do you know what that was?
 (4) A: Yes. It was - actually it grew out of the
 (5) spray drying process that we had developed for
 (6) Premier, and it was similar to G7. But with the
 (7) Rest Process you take good cut filler, tobacco or
 (8) scrap, whatever. But you take a liquid extract,
 (9) take - take that extract then and blend it, treat
 (10) it, do whatever you want to do to it and reapply
 (11) it back to the tobacco.
 (12) Now, you would do that - the
 (13) people that were doubting this technology felt
 (14) that it offered opportunities to improve
 (15) consistency of products and opportunities to
 (16) manipulate flavors or whatever with this
 (17) technology.
 (18) Q: Did some believe it was a means of
 (19) controlling nicotine levels?
 (20) MS. FORBES: Objection to the form.
 (21) THE WITNESS: I think it was
 (22) realized that it had the potential to be used for
 (23) that.
 (24) MR. MAISTROS: Where are we?
 (25) MS. KNISELY: 32.

(1) Q: On the last page there is a
 (2) glossary of codes and it says "HNPS - High
 (3) Nicotine Process Sheet."
 (4) Do you know what that is?
 (5) A: HNPS.
 (6) Q: Sixth one down.
 (7) A: Uh-huh. Not - not in this time frame.
 (8) I'm not sure what that is.
 (9) Q: On the page that says 23168,
 (10) towards the front.
 (11) MS. FORBES: Can you give me that
 (12) page again.
 (13) MR. MAISTROS: 23168.
 (14) THE WITNESS: Okay.
 (15) BY MR. MAISTROS:
 (16) Q: It says "Rest - new product
 (17) applications. Controlled nicotine PGT."
 (18) Do you know what that is?
 (19) A: It would be a product guidance test that
 (20) was being done in the 4th quarter of '91 using the
 (21) Rest Process to control nicotine and, I assume, to
 (22) - to provide different nicotine levels for
 (23) consumer tests.
 (24) Q: And what was the Rest Process?
 (25) Does reestablishment of solubles

(1) (PLAINTIFF'S EXHIBIT NUMBER 32 WAS MARKED FOR
 (2) IDENTIFICATION)
 (3) BY MR. MAISTROS:
 (4) Q: Exhibit 32 is a very large
 (5) document. The first page says "Nicotine Research
 (6) in R & D." Then there is a lot of pages that
 (7) follow it. The question is, if you leaf through
 (8) this, can you tell me what this document is? Do
 (9) you recognize it?
 (10) A: I - I do not believe I saw or heard this
 (11) particular presentation. I don't recognize the
 (12) presentation.
 (13) Q: Okay. If you go in - these little
 (14) numbers, now, you're going to have to read.
 (15) A: Okay.
 (16) Q: The last four digit says 5248?
 (17) A: Okay.
 (18) Q: The heading says "Nicotine RSM
 (19) Study."
 (20) A: Yes.
 (21) Q: Do you know what that is?
 (22) A: I assume that that was the nicotine study
 (23) that was being done with the Rest Process. But,
 (24) no, I don't know any more than that, and I don't
 (25) know the - I don't know the details on this.

Page 328

(1) Q: Does the objective help you at
(2) all? It says: (Reading)
(3) Begin to develop an
(4) understanding of satisfaction
(5) in actionable product development
(6) terms to improve RJR position
(7) in the marketplace.
(8) A: That's kind of a generic motherhood and
(9) apple pie statement to me. That doesn't help me
(10) any now.
(11) Q: How about the next page? It says,
(12) "RSM Study Background" - third one: (Reading)
(13) Independent manipulation of
(14) nicotine will result in a
(15) better understanding than
(16) ever before of satisfaction.
(17) A: Uh-huh.
(18) Q: "Pharmacologically, physiologically
(19) and taste."
(20) A: Uh-huh.
(21) Q: Does that help at all?
(22) MS. FORBES: Objection to the
(23) form. Help him what?
(24) MR. MAISTROS: Understand what this
(25) is - RSM study.

Page 330

(1) recognize that document? It's 92 pages long and
(2) it appears to be a question and answer series on
(3) Premier.
(4) A: I believe I am familiar with some of the
(5) questions and some of the answers.
(6) Q: Which ones?
(7) MS. FORBES: Objection. That's
(8) extremely broad.
(9) THE WITNESS: I don't know, unless
(10) I take them one at a time.
(11) BY MR. MAISTROS:
(12) Q: There are different categories.
(13) There is Product, Smoking and Health, Law and
(14) Regulatory -
(15) A: Oh, okay. Well, let me get out of this
(16) business and finance area.
(17) Q: There are headings at the top
(18) you'll see.
(19) MS. FORBES: What is the question.
(20) Jack?
(21) MR. MAISTROS: Which ones he's
(22) familiar with.
(23) THE WITNESS: Certainly we in R & D
(24) made contributions with these answers that had to
(25) do with explaining the product, the fuel source.

Page 329

(1) THE WITNESS: Okay, I understand
(2) now that it is part of the Rest Process because
(3) one of the unique advantages of the Rest Process
(4) was that you could virtually independently control
(5) - manipulate and control a variable like
(6) nicotine, and there was no way of really doing
(7) that before this technology.
(8) BY MR. MAISTROS:
(9) Q: Do you know why Reynolds was
(10) looking at ways to independently control
(11) nicotine?
(12) MS. FORBES: Objection to the form.
(13) THE WITNESS: I - I don't think I
(14) said that in this study. They were trying to do
(15) it for the sake of this study, so that they could
(16) isolate the effects of nicotine independently of
(17) other compounds.
(18) MR. MAISTROS: Okay. Why don't we
(19) take a break just for a minute. We have to
(20) change tapes anyway.
(21) (RECESS TAKEN FROM 6:03 P.M. TO 6:11 P.M.)
(22) VIDEOGRAPHER: Beginning of tape 4.
(23) On record.
(24) BY MR. MAISTROS:
(25) Q: I'll hand you Exhibit 32. Do you

Page 331

(1) That's where my recognition comes in. It's just
(2) making input on some of these technical answers.
(3) BY MR. MAISTROS:
(4) Q: Do you know if this document was
(5) actually distributed by the public or used by
(6) anyone at Reynolds?
(7) A: I do not believe it was distributed to the
(8) public; I think it was for use within Reynolds.
(9) Q: And for what purpose?
(10) MS. FORBES: Objection to the form.
(11) THE WITNESS: For - to provide
(12) guidance on answers to questions that might be
(13) asked probably our management people.
(14) BY MR. MAISTROS:
(15) Q: Did you provide any input to the
(16) questions and answers underneath the heading
(17) Smoking and Health?
(18) MS. FORBES: What pages?
(19) MR. MAISTROS: Well, it begins on
(20) page 30. Actually, there is two un-numbered pages
(21) that precedes page 30 under the heading Smoking
(22) and Health, and it continues all the way to 38.
(23) THE WITNESS: First question, no.
(24) on 30 and 31. Again, 31, I didn't contribute to.
(25) Do you want me to go through all of this

(1) (indicating)?

BY MR. MAISTROS:

(2) Q: Go to, if you could, page 37. Did
(3) you contribute to the question and answer:

(4) (Reading)

(5) Question: Is it habit forming;
(6) is it addictive?(7) Answer: We believe that
(8) cigarette smoking is a
(9) pleasurable custom and that
(10) it is not an addiction.(11) Did you contribute to that question
(12) and answer?

(13) A: No, I did not.

(14) Q: Do you know who wrote down the
(15) recommended answer? Do you believe that smoking
(16) is a pleasurable custom and it is not an
(17) addiction?(18) A: I would assume it would have come from the
(19) Law Department.(20) MS. FORBES: Objection. Motion to
(21) strike.

(22) MR. MAISTROS: Motion to what?

(23) MS. FORBES: Motion to strike.

(24) Don't speculate.

(1) MS. FORBES: Objection.

BY MR. MAISTROS:

(2) Q: On August 29th of 1987?

(3) A: No. I would not have.

(4) Q: Why not?

(5) A: Would I have answered this question this
(6) way?

(7) Q: Yes.

(8) A: That cigarette is not an addiction?

(9) Q: Right.

(10) A: Only because I believed at that point in
(11) time - in 1987 I had come to believe that
(12) cigarette smoking did constitute some addictive
(13) properties.

(14) Q: And wasn't that also true about

(15) most of the people in your research department at
(16) this point in time?

(17) MS. FORBES: Objection.

(18) Overbroad. Assumes facts not in evidence and
(19) lacks proper foundation.

(20) MR. MAISTROS: You can answer.

(21) MS. FORBES: Can you answer in
(22) behalf of all research?(23) MR. MAISTROS: Don't coach the
(24) witness. That's not what I asked. Marilyn that's

BY MR. MAISTROS:

(1) Q: Do you know if the research
(2) scientists at Reynolds would have answered that
(3) question, "We believe that cigarette smoking is a
(4) pleasurable custom and that it is not an
(5) addiction?"

(6) MS. FORBES: Objection. Overbroad.

(7) MR. MAISTROS: Overbroad? It's yes
(8) or no.

(9) MS. FORBES: No, it's objection.

(10) You're asking him every opinion -

(11) MR. MAISTROS: Quit coaching the
(12) witness.

(13) MS. FORBES: No. Objection.

BY MR. MAISTROS:

(14) Q: Do you believe the Research
(15) Department would have answered that question in
(16) that fashion?(17) MS. FORBES: Objection to the
(18) form. Research has got no -

BY MR. MAISTROS:

(19) Q: All right. Let's take it one at a
(20) time. Did you answer the question "We believe
(21) cigarette smoking is a pleasurable custom and that
(22) it is not an addiction?"

(1) not what I asked.

(2) MS. FORBES: Could you read the
(3) question back.

(4) (PREVIOUS QUESTION READ BACK)

(5) MS. FORBES: Same objection. And
(6) ask this witness his opinion. It's not the -(7) MR. MAISTROS: I don't want to
(8) clutter up the record with your statements,
(9) Marilyn, so I'm going to start over. Please don't
(10) interrupt me.(11) MS. FORBES: I'll object when
(12) appropriate.(13) MR. MAISTROS: If you interrupt
(14) we're going to stop the deposition, and I'll ask
(15) the Court if I can ask a question without you
(16) interjecting your editorials before he answers.(17) MS. FORBES: I'll object when it's
(18) appropriate.

BY MR. MAISTROS:

(19) Q: In 1987, isn't it a fair statement,
(20) that most of the research chemists like you
(21) believed that smoking had addictive properties?

(22) MS. FORBES: Same objection.

(23) THE WITNESS: That would be my
(24) guess, but I don't know that for a fact.
(25)

Page 336

BY MR. MAISTROS:

(1) Q: Did you provide any input into the
(2) questions related to marketing? If you keep
(3) going -
(4) A: In this document.
(5) Q: Yes.
(6) A: I doubt it.
(7) MS. FORBES: Do you have specific
(8) pages in mind?
(9) MR. MAISTROS: It goes on - the
(10) number of pages start at 59 and end at 67.
(11) THE WITNESS: No. I don't think I
(12) participated in any of these questions.
(13) BY MR. MAISTROS:
(14) Q: By the way, during your years at
(15) Reynolds do you know if Reynolds ever, as part of
(16) its marketing activities, attempted to get
(17) non-smokers to smoke cigarettes?
(18) A: Not to my knowledge, no.
(19) Q: Who was their primary target?
(20) A: You mean other than smokers?
(21) Q: Yes.
(22) A: You mean what type of smokers?
(23) Q: Well, you've got non-smokers,
(24) smokers, you've got Marlboro or Reynolds smokers.
(25)

Page 337

(1) non-Reynolds smokers. Is the universe of people
(2) Reynolds is trying to attract limited, first of
(3) all, to smokers?
(4) A: Yes.
(5) Q: Was Reynolds - did Reynolds make
(6) efforts to make certain that current smokers did
(7) not stop smoking Reynolds cigarettes?
(8) MS. FORBES: Objection to the form.
(9) THE WITNESS: Smokers did not stop
(10) smoking Reynolds cigarettes? Not - not in any
(11) way that I can think of right offhand.
(12) BY MR. MAISTROS:
(13) Q: Did Reynolds care if the smokers of
(14) the cigarettes switched brands and smoked other
(15) manufactured cigarettes?
(16) A: Of course.
(17) MS. FORBES: Objection.
(18) Overbroad.
(19) BY MR. MAISTROS:
(20) Q: And did Reynolds develop marketing
(21) tactics to keep smokers with Reynolds
(22) cigarettes - smoking Reynolds cigarettes?
(23) MS. FORBES: Objection.
(24) THE WITNESS: I think that's fair
(25) to say, yes.

Page 338

BY MR. MAISTROS:

(1) Q: Now, on page 74 - could you go to
(2) that page. Underneath "How is this product
(3) constructed and what are the primary components?"
(4) It lists three down "Flavor beads are composed of
(5) specially processed alumina which is saturated
(6) with glycerin, tobacco extracts, and flavorings."
(7) A: Yes.
(8) Q: What flavorings were applied to
(9) those beads?
(10) A: Oh, wow. The flavor department had a very
(11) intensive project in developing a flavor system
(12) for Premier. So, I - I don't know for the market
(13) product what the flavor compounds were, but I
(14) assume it was a pretty complex mixture.
(15) Q: Under the section on toxicology, do
(16) you think you contributed to any of those proposed
(17) answers or recommended answers? It begins on page
(18) 78.
(19) A: No. These look like questions that would
(20) have been answered by toxicologists.
(21) Q: Not you, though?
(22) A: Not me.
(23) Q: During the course of this
(24) deposition today have I not asked you any
(25)

Page 339

(1) questions in areas that you thought I would ask
(2) you about?
(3) MS. FORBES: I know I have to
(4) object to that for some reason.
(5) MR. MAISTROS: I would too. I
(6) would too.
(7) MS. FORBES: Calls for gross
(8) speculation.
(9) BY MR. MAISTROS:
(10) Q: Before you came here today, did you
(11) contemplate there were areas that I'd ask you
(12) about that I haven't mentioned?
(13) MS. FORBES: Same objection.
(14) THE WITNESS: I certainly don't
(15) think so.
(16) MS. FORBES: I would say the record
(17) indicates you've been thorough.
(18) BY MR. MAISTROS:
(19) Q: Is there any areas that you viewed
(20) as more significant than the time I spent
(21) questioning about?
(22) MS. FORBES: Objection.
(23) THE WITNESS: I don't think so.
(24) BY MR. MAISTROS:
(25) Q: If you had to, in your 15 years at

(1) Reynolds, categorize the type of work you did, how
(2) would you categorize it?
(3) A: Probably development.
(4) Q: That reference to nicotine delivery
(5) devices - I believe you used that phrase on
(6) occasion. Do you understand that concept?
(7) MS. FORBES: Objection. Motion to
(8) strike.

(9) THE WITNESS: Yeah. I'm not sure I
(10) used that term.

(11) BY MR. MAISTROS:

(12) Q: I used the term nicotine delivery
(13) devices. Do you recall me using that from time to
(14) time?

(15) A: I think so.

(16) Q: And you identified Omega as being
(17) one such device?

(18) A: Okay. I don't think I called it a device,
(19) but it was a nicotine delivery system, yes.

(20) Q: I'm sorry. Nicotine delivery
(21) system. Was Premier also a nicotine delivery
(22) system?

(23) MS. FORBES: Objection to the
(24) form.

(25) THE WITNESS: It was a system that

(1) departure from Reynolds in terms of monetary
(2) compensation? You were a participant in their
(3) pension plan, I assume; profit sharing, perhaps
(4) both?

(5) A: I was a participant, but I was able to take
(6) that out and it became a portable pension plan. I
(7) was able to move that money over.

(8) Q: Did you have stock options that you
(9) were allowed to exercise?

(10) A: I did not have stock options.

(11) Q: When you left Reynolds, did you
(12) contemplate permanent retirement or going into
(13) another area?

(14) A: I just - I knew I needed a couple of years
(15) to decide what I wanted to do. I did not have
(16) plans beyond that.

(17) Q: What was the buyout that you had
(18) when you left?

(19) MS. FORBES: Objection. I think he
(20) didn't understand the term.

(21) BY MR. MAISTROS:

(22) Q: Reynolds gave you a certain sum of
(23) money when you left?

(24) A: Yes.

(25) Q: In addition to -

(1) was capable of delivering nicotine, but I don't
(2) think it was just a nicotine delivery system.

(3) MR. MAISTROS: Marilyn, why don't
(4) you go on. And I think I'm - just a minute.

(5) Let me just make certain.

(6) BY MR. MAISTROS:

(7) Q: You left Reynolds in '92; you never
(8) went back and consulted in any fashion?

(9) A: No, I did not.

(10) Q: You did not provide any of the
(11) information to the FDA on whether or not nicotine
(12) should be regulated as a drug in '94?

(13) A: No.

(14) Q: You didn't provide any input into
(15) any of the testimony provided by Reynolds
(16) employees before congress in '94 or thereafter?

(17) A: No.

(18) Q: And when you left Reynolds, did
(19) you - did Reynolds offer a buyout to you?

(20) A: Yes.

(21) Q: Was that offered to more than you
(22) or other employees or what?

(23) A: By a buyout you mean the - I guess, what
(24) do you mean by buyout?

(25) Q: Well, what were the terms of your

(1) A: It was something like 18 months pay.

(2) Q: Is that what you consider a buyout?

(3) A: I'm not sure -

(4) MS. FORBES: Objection to the form.

(5) THE WITNESS: - technically

(6) whether that was considered a buyout or not. It
(7) was considered part of their job elimination
(8) program.

(9) MR. CLIMACO: Part of a job
(10) elimination program, you said?

(11) THE WITNESS: Yeah.

(12) BY MR. MAISTROS:

(13) Q: So, in addition to the usual
(14) pension transfer and stock options that everyone's
(15) allowed to exercise, you had 18 months severance?

(16) A: Uh-huh.

(17) Q: Anything else?

(18) A: No.

(19) Q: In the group that you were in at
(20) the time of your departure, what was your last
(21) title? Is that the one we can't identify whether
(22) technical was first or second word in the title?

(23) A: As best I can recall, it was manager of
(24) advanced technology products.

(25) Q: Did that group continue after you

Page 344

(1) left?
(2) A: Yes.
(3) Q: And who replaced you?
(4) A: John Reynolds.
(5) Q: What was the job elimination that
(6) you referred to?
(7) A: The company was able to eliminate a
(8) management position. John was in a technical
(9) ladder. So a management position was eliminated
(10) at my request.
(11) Q: But he became a manager, didn't he?
(12) A: That dual ladder works funny. They keep
(13) their titles even if they become managers; they
(14) keep their technical titles.
(15) Q: Have you been watching the
(16) testimony of tobacco executives before congress?
(17) A: Just the short blurbs that I see on the
(18) news.
(19) Q: Is there anyone who testified that
(20) you know?
(21) A: Well, certainly years ago when Jim Johnston
(22) did; I knew him.
(23) MR. MAISTROS: Okay. I have no
(24) further questions. Marilyn; you can have him.
(25) MS. FORBES: Okay. Let's take a

Page 345

(1) tobacco is an agricultural crop?
(2) A: Yes.
(3) Q: Okay. It comes out of the ground
(4) different ways in different parts of the country?
(5) A: Yeah.
(6) Q: The nicotine sugar taste of tobacco
(7) varies from year to year?
(8) A: Yes.
(9) Q: Part of that is affected by how
(10) much rain there is?
(11) A: Yes.
(12) Q: How much sun there is?
(13) A: Yes.
(14) Q: Other conditions of growing
(15) seasons, whether it's cool or hot?
(16) A: Absolutely.
(17) Q: And all of those kinds of growing
(18) conditions affect the chemical makeup of the
(19) tobacco coming out of the ground?
(20) A: They all do influence it, yes.
(21) Q: Now, we talked a little bit about
(22) stalk positions; is that correct?
(23) A: Stalk position, yes. Uh-huh.
(24) Q: Now, you know, do you not, that
(25) Reynolds buys all stalk positions, correct?

Page 345

(1) break.
(2) (RECESS TAKEN FROM 6:27 P.M. TO 7:12 P.M.)
(3) VIDEOGRAPHER: On record.
(4) EXAMINATION
(5) BY MS. FORBES:
(6) Q: Mr. Shannon, it's been a long day.
(7) I'll try to be brief. If you don't understand any
(8) of my questions, just like with Mr. Maistros,
(9) please let me know.
(10) A: Okay.
(11) Q: You have a B.S. in chemistry?
(12) A: Yes.
(13) Q: You do not have a Ph.D in any
(14) subject matter?
(15) A: No.
(16) Q: Do you have a master's degree in
(17) any related subject?
(18) A: No, I do not.
(19) Q: Have you taken any Ph.D level or
(20) any master's degree courses?
(21) A: Just some business courses.
(22) Q: What about on the science side?
(23) Any science masters degree courses?
(24) A: No.
(25) Q: You would agree with me that

Page 347

(1) A: To my knowledge, yes.
(2) Q: They don't buy just one part of the
(3) tobacco plant?
(4) A: That's correct.
(5) Q: In fact, they buy the crop. You've
(6) heard that expression, have you not?
(7) A: I haven't heard that expression, no.
(8) Q: You're aware that they go in and
(9) buy millions of pounds, correct?
(10) A: Yes.
(11) Q: Now, RJR - you've been obligated
(12) for some period of time to provide to the FDC
(13) tar/nicotine measurements of its various brands?
(14) A: Yes.
(15) Q: Okay. And RJR has to ensure that
(16) the information that they've provided to the FDC
(17) concerning tar and nicotine levels are in fact
(18) correct?
(19) A: Yes.
(20) Q: It's true?
(21) A: As far as I know, yes.
(22) Q: And they measure tar and nicotine
(23) to ensure that occurs, correct?
(24) A: Yes. Yes.
(25) Q: Okay. And those measurements are

Page 348

(1) reported even though on an annual basis tar,
(2) nicotine, sugar levels are varying in the crop
(3) that's coming in to make the cigarettes, correct?
(4) A: Uh-huh. Yes.
(5) Q: Okay. Now, we talked some today
(6) about the term satisfaction: do you recall that
(7) testimony?
(8) A: Uh-huh.
(9) Q: You would agree that satisfaction
(10) has a lot of meanings?
(11) A: Yes.
(12) Q: And that is something -
(13) satisfaction is something that for the people who
(14) conduct smoke consumer tests they measure
(15) satisfaction?
(16) A: Yes, they do.
(17) Q: Satisfaction means different things
(18) to different people?
(19) A: Yes. To some extent, yes.
(20) Q: What you find satisfying in a
(21) cigarette may in fact not be what somebody else
(22) finds satisfying in a cigarette? People vary.
(23) A: Yes. Okay.
(24) Q: Okay. In fact, smokers smoke for
(25) lots of different reasons, correct?

(1) Premier?
(2) A: That's true.
(3) Q: Okay. And that was reported back
(4) to Reynolds?
(5) A: Uh-huh.
(6) Q: And one of the other problems was
(7) it was hard to draw, correct?
(8) A: Yes.
(9) Q: And smokers didn't like that about
(10) it?
(11) A: Yes.
(12) Q: And that was despite the fact that
(13) Premier delivered nicotine, correct?
(14) A: That's true, yes.
(15) Q: One of the other problems with
(16) Premier is it was tough to light, correct?
(17) A: Yes, it was.
(18) Q: Okay. And smokers didn't like
(19) that?
(20) A: That's true.
(21) Q: And you talked about the visual
(22) cues that smokers liked about cigarettes, correct?
(23) A: I talked about it, yes.
(24) Q: And some of the visual cues are the
(25) burning down and ashing?

Page 349

(1) A: Yes, they do.
(2) Q: And that was something you were
(3) aware of when you worked on Premier, correct?
(4) A: Yes.
(5) Q: Premier contained nicotine, did it
(6) not?
(7) A: It did.
(8) Q: Premier failed in the marketplace,
(9) did it not?
(10) A: It did.
(11) Q: Failed in the marketplace, in part,
(12) because it tasted bad, right?
(13) A: Correct.
(14) Q: So taste was important to the
(15) consumers that were consuming Premier, correct?
(16) A: Of course.
(17) Q: Okay. And one of the things that
(18) also lead to Premier's failure is that it didn't
(19) burn down, did it, like a regular cigarette?
(20) A: That's true.
(21) Q: And smokers like to watch a
(22) cigarette burn down, or at least some segment of
(23) the smoking population likes that, correct?
(24) A: That's true.
(25) Q: And that was another problem with

Page 3

(1) A: Uh-huh. Yes.
(2) Q: And one of the things you know from
(3) your Premier research is people like the ritual of
(4) the pack? They like to tap it, unwrap it, play
(5) with it?
(6) A: Certainly some people do, yes.
(7) Q: And those were all issues you
(8) looked at in the design of Premier and alternative
(9) products, correct?
(10) A: Those issues were all considered, yes.
(11) Q: And that's because those are things
(12) that smokers like about smoking, correct?
(13) A: Uh-huh.
(14) Q: And you wanted to capture that in
(15) Premier?
(16) A: Yes, I did.
(17) Q: Now, did you recommend or did you
(18) tell upper - your reporting command that you
(19) thought Premier was a safe product?
(20) A: Did I tell them that I thought Premier was
(21) a safe product? No.
(22) Q: You talked about the fact that you
(23) believed it was a safer product because the
(24) chemistry was simple?
(25) A: Yes.

Page 352

(1) Q: Simpler?
(2) A: Correct.
(3) Q: So, when you use the term safer,
(4) you mean the chemistry is simpler, less complex,
(5) correct?
(6) A: Yes.
(7) Q: You could not guarantee, could you,
(8) that Premier was a safe cigarette?
(9) A: A safe cigarette, no.
(10) Q: And without discussing the
(11) specifics of the advice given by Reynolds' counsel
(12) concerning advertising claims, because Reynolds
(13) does not waive any of those privileges,
(14) specifically from advice by counsel, you were
(15) aware that RJR was prohibited for making health
(16) claims in its advertising, correct?
(17) MR. MAISTROS: If you're going to
(18) ask him questions about legal advice, then I'm
(19) going to ask him everything the lawyers ever told
(20) him. And there is no such thing as a limited
(21) waiver.
(22) MS. FORBES: No. That's what I'm
(23) trying to make clear. I'm not asking him that,
(24) just as you were not asking those questions.
(25) MR. MAISTROS: So, again, you were

Page 354

(1) Q: And you knew that?
(2) A: Yes.
(3) Q: And it would have been
(4) irresponsible, would it have not, from your view,
(5) for Reynolds to market this aside from any
(6) restrictions as a safe cigarette?
(7) A: Of course.
(8) Q: Do you recall that the public
(9) health community was opposed to Premier in
(10) general?
(11) A: There was some mixed reception that I do
(12) know a lot of the public health community was
(13) opposed to Premier, yes.
(14) Q: Okay. There was significant effort
(15) to make - to try to ban it?
(16) A: Some effort; I don't know how significant,
(17) yes.
(18) Q: And in fact, do you recall whether
(19) some of the public health officials criticized
(20) Reynolds and claimed they were making implied
(21) warranties that it was safe and that that was
(22) wrong to do?
(23) A: I'm sure that was probably so, yes.
(24) Q: We talked some about addiction.
(25) A: Uh-huh.

Page 353

(1) not asking him questions that require him to
(2) relate what attorneys told him?
(3) MS. FORBES: That's right. We're
(4) maintaining that privilege, and that's why I
(5) stated that.
(6) MR. MAISTROS: So, if an attorney
(7) told him to answer it one way but you're
(8) instructing him not to answer it - what he was
(9) told is from an attorney?
(10) BY MS. FORBES:
(11) Q: What I'm specifying - what I'm
(12) asking you - you were aware, were you not, and
(13) there is - we are maintaining our privilege and
(14) not waiving it. I'm just trying to ask it simply,
(15) that Reynolds was prohibited from making specific
(16) health claims in the advertising of Premier?
(17) MR. MAISTROS: Objection. No
(18) foundation. No basis for that statement.
(19) THE WITNESS: Are you saying
(20) prohibited by - by concerns about FDA
(21) jurisdiction? Prohibited by -
(22) BY MS. FORBES:
(23) Q: Prohibited in any manner.
(24) A: Reynolds could not make health claims about
(25) Premier. I do understand that.

Page 355

(1) Q: You do not consider yourself an
(2) expert in physiology?
(3) A: No, I do not.
(4) Q: Pharmacology?
(5) A: No, I do not.
(6) Q: Toxicology?
(7) A: No, I do not.
(8) Q: Do you consider yourself an expert
(9) in medical causation?
(10) A: No, I do not.
(11) Q: Okay. You would agree that there
(12) is lots of different definitions of addiction?
(13) A: Yes, there are.
(14) Q: And definitions of addiction have
(15) changed over time?
(16) A: I didn't know they were changing.
(17) Q: But you're - you're not aware of,
(18) for example, the DSM's definition of addiction?
(19) A: No, I am not.
(20) Q: Or the American Psychiatric
(21) Association?
(22) A: No.
(23) Q: Any of those definitions?
(24) A: No.
(25) Q: Just not your area?

Page 356

(1) A: That's right.
(2) Q: And you would defer people who are
(3) expert in the area of addiction?
(4) A: Yes, I would. Uh-huh.
(5) Q: Okay. You've heard laymen, people
(6) that aren't experts, use the term addiction to
(7) apply to chocolate, internet, sex, shopping - has
(8) widespread Layman's use -
(9) A: Uh-huh.
(10) Q: - in your experience?
(11) A: Yes, it does.
(12) Q: And certainly it is not your
(13) position that smokers cannot quit?
(14) A: No, it is not position that smokers cannot
(15) quit.
(16) Q: You could quit?
(17) A: People can quit, yes.
(18) Q: And millions of people have,
(19) correct?
(20) A: Yes, they have.
(21) MS. FORBES: Okay. Off the
(22) record.
(23) (DISCUSSION OFF THE RECORD)
(24) BY MS. FORBES:
(25) Q: Mr. Maistros asked you about a 1972

Page 2

(1) Dr. Teague had in reaching any of his statements?
(2) A: No, I don't.
(3) Q: You never relied on this document
(4) as part of your work at RJR?
(5) A: No, I didn't.
(6) Q: Never saw anything like it. It was
(7) never part of your work program?
(8) A: No, it was not.
(9) Q: And it was this document and
(10) certainly an indication that Dr. Teague had
(11) freedom to express his thoughts as he needed to or
(12) wanted to in a document, correct?
(13) A: I would say so, yes.
(14) Q: All right. Nobody ever told you at
(15) RJ Reynolds that you were not entitled to freedom
(16) as a scientist?
(17) A: No.
(18) Q: Reynolds was dedicated to the
(19) Premier project?
(20) A: Yes.
(21) Q: They dedicated good science to it?
(22) A: Definitely.
(23) Q: Do you believe it was a strong
(24) effort by Reynolds?
(25) A: Definitely.

Page 357

(1) document by Dr. Teague; do you recall that?
(2) A: I'm not sure I remember which one it was.
(3) Q: I'm trying to find it here.
(4) Had you ever seen that document
(5) before today (indicating)?
(6) A: I don't believe I did. The one by Carl
(7) Teague, I don't think so; but let me look at it
(8) again to be sure I'm thinking of the right one.
(9) MR. MAISTROS: 3.
(10) THE WITNESS: 3?
(11) MR. MAISTROS: Close to 3.
(12) THE WITNESS: Okay, yes. I
(13) certainly don't recall ever seeing this before.
(14) BY MS. FORBES:
(15) Q: Had you ever - have you ever
(16) discussed the topic of nicotine with Dr. Teague?
(17) A: No, I have not.
(18) Q: You don't know anything about the
(19) "whys" surrounding why Dr. Teague prepared this
(20) document?
(21) A: No, I do not.
(22) Q: You don't know whether there is any
(23) original research by Dr. Teague in this document?
(24) A: No, I don't.
(25) Q: You don't know what basis that

Page 35

(1) Q: It was trying to respond to critics
(2) about traditional cigarettes?
(3) A: Definitely.
(4) Q: And they dedicated a lot of time,
(5) money, resource to it, correct?
(6) A: Oh, yes.
(7) Q: Reynolds was disappointed when it
(8) failed in the marketplace?
(9) A: Yes.
(10) Q: And as far as you're aware,
(11) Reynolds is continuing to try to respond to
(12) smoking and health critics about its products?
(13) A: That's my understanding.
(14) Q: All right. You have not conducted
(15) any studies on addiction, correct?
(16) A: I have not.
(17) Q: You have not conducted any studies
(18) on medical causation?
(19) A: No, I have not.
(20) Q: You're not an expert in that area?
(21) A: No, I'm not.
(22) Q: You don't know, since you are not
(23) an expert, what proof those that are experts
(24) require to establish causation in smoking and
(25) disease?

Page 360

(1) A: No.
(2) Q: And you agree that reasonable minds
(3) may differ on what is required proof in science?
(4) A: Certainly.
(5) Q: All right. You and I have not met
(6) before today; is that correct?
(7) A: We have not met, period.
(8) Q: You have met other lawyers that are
(9) in this room?
(10) A: Before today, yes.
(11) Q: Okay. Who have you met that is in
(12) this room?
(13) A: Hollis, Tom and Sherrice.
(14) Q: All right. When did you meet them?
(15) A: It was two or three months ago. I'm not
(16) sure of the exact time.
(17) Q: And how did that meeting come
(18) about?
(19) A: I had been deposed, and at some point
(20) the -
(21) Q: Do you mean you had been noticed to
(22) be deposed?
(23) A: Yes. Yes. I'm sorry. I had been
(24) subpoenaed to appear at a deposition and the - I
(25) think it ended up being cancelled, so I ended up

Page 361

(1) having conversations with - with Sherrice on the
(2) phone and then Tom on the phone, together. Okay.
(3) They asked me a few questions trying to understand
(4) my general background; what I knew or did not know
(5) about the - the industry and product development.
(6) Q: And how many times did you talk
(7) with them on the phone?
(8) A: All total? Now?
(9) Q: To your best recollection.
(10) A: Several; three, four, five.
(11) Q: Did you ever meet them in person?
(12) A: I - yes. I did meet them in
(13) Winston-Salem.
(14) Q: When was that?
(15) A: I believe it was - I believe it was
(16) November.
(17) Q: And it was the three of them again?
(18) A: Yes.
(19) Q: Okay. And how long did you meet?
(20) A: I believe it was four hours or so.
(21) Q: Any other meeting?
(22) A: No.
(23) Q: And what was your understanding of
(24) the purpose of the meeting?
(25) A: They wanted to ask me questions, get

Page 362

(1) information. I was willing to provide that,
(2) particularly if it would keep me from being
(3) deposed.
(4) Q: Okay. And were you told that if
(5) you met with them it would keep you from being
(6) deposed?
(7) A: I wasn't told that. I said it possibly
(8) could.
(9) Q: Did they tell you that before you
(10) met with them?
(11) A: Uh-huh.
(12) Q: Mr. Maistros also talked to you
(13) briefly about the mouse house; do you recall that
(14) testimony?
(15) A: Yes.
(16) Q: All right. You were not at
(17) Reynolds when what was known as "the mouse house"
(18) or the Biological Research Division was open; is
(19) that correct?
(20) A: That's correct.
(21) Q: You have not reviewed any of the
(22) work done by the Biological Research Division?
(23) A: No, I have not.
(24) Q: You don't know what the scope of
(25) their research was?

Page 363

(1) A: No.
(2) Q: You don't know what companies they
(3) did their work for?
(4) A: No.
(5) Q: Okay. In the course of your
(6) employment at Reynolds, did you review
(7) testimony - excuse me. Did you review or ever
(8) see before the Dr. Rodgman exhibit that Mr.
(9) Maistros provided you?
(10) A: I believe I said I had not seen those
(11) before. I have not seen them.
(12) MS. FORBES: All right. I don't
(13) have any further questions.
(14) **EXAMINATION**
(15) **BY MR. MAISTROS:**
(16) Q: Do you think it's unusual that you
(17) had not seen the Teague or Rodgman exhibits before
(18) today in this deposition?
(19) A: Well, the - the Rodgman exhibits are not
(20) finished final documents. I mean, they were
(21) edited and have crossed-out words, et cetera. So,
(22) I assume they are not in their final form. If
(23) they are not in their final form they would have
(24) not - would not have been in the library where I
(25) could have accessed them.

(1) Q: Does the Teague document appear to
(2) be in its final form signed by him?
(3) A: All right. Give me a number.
(4) Q: Three.
(5) MS. FORBES: Number 3.
(6) BY MR. MAISTROS:
(7) Q: 1972: April of '72. It's
(8) probably -
(9) A: All right. This does not have the form
(10) that an official R & DM, R & D memorandum or R & D
(11) report would have. Therefore, again, it would
(12) not - I do not think would have been recorded in
(13) our library. It was in - it would have to have
(14) been in some certain individual's files which we
(15) would not have been able to access with research
(16) in the library. How would we know they existed?
(17) Q: Did you ever conduct a search of
(18) the library to determine what past research was
(19) there on past nicotine or addiction?
(20) A: No, I did not. No.
(21) Q: Okay. You were asked questions
(22) about being - what's the form you're talking
(23) about that should be with these documents?
(24) MS. FORBES: Objection.
(25) Mischaracterizes.

(1) today?
(2) A: No.
(3) Q: You've talked to Ms. Forbes before
(4) today, haven't you?
(5) A: Sometime.
(6) Q: You've talked to Mr. Holton?
(7) A: Yes, sometime.
(8) Q: Who is Mr. Holton?
(9) A: Who is he? He is - he is counsel for
(10) tobacco companies. I don't know if he's with
(11) Reynolds or an outside firm representing Reynolds.
(12) Q: He didn't identify who he was
(13) representing?
(14) A: I'm sure he did but, I mean, he - I did
(15) not pay any attention.
(16) Q: How many times did you talk to Ms.
(17) Forbes or Mr. Holton before today?
(18) A: Once or twice. Once or twice.
(19) Q: Did you ever talk to any other
(20) Reynolds counsel before today?
(21) A: Yes.
(22) Q: Who?
(23) MS. FORBES: You mean ever ever?
(24) In what context?
(25) MR. MAISTROS: Prior to this

(1) THE WITNESS: There is generally a
(2) cover - the first page has an R & D number. It
(3) has again, for example, the author and who it is
(4) being sent to; there would be a distribution at
(5) the end. That's what I don't see on these - this
(6) memo of Claude Teague's.
(7) BY MR. MAISTROS:
(8) Q: All right. I showed you several
(9) memos that you authored or were sent to you and
(10) they didn't have those either. We can go through
(11) them one by one, if you'd like. But are there any
(12) documents in there that have that -
(13) A: But the point is, I think you were asking
(14) me whether I could go to the library and find this
(15) document. The library only has the copies, to my
(16) knowledge, of the official R & DMs, R & DRs.
(17) Internally generated memos are not kept in the
(18) library. There is not a way to access this
(19) information. I would not have been able to find a
(20) personal memo from Claude Teague.
(21) Q: Okay. You were asked a series of
(22) questions about meeting with counsel. Did you
(23) ever meet me before today?
(24) A: No.
(25) Q: Did you ever talk to me before

(1) deposition.
(2) MS. FORBES: Objection to the
(3) form. In what context?
(4) MR. MAISTROS: I think we all know
(5) what I'm asking.
(6) BY MR. MAISTROS:
(7) Q: Did you talk to Reynolds' counsel
(8) before this deposition?
(9) MS. FORBES: Concerning the
(10) deposition?
(11) MR. MAISTROS: I can ask the
(12) question.
(13) BY MR. MAISTROS:
(14) Q: Do you understand my question?
(15) A: Yes.
(16) Q: Okay. Who did you talk to before
(17) this deposition?
(18) A: Well, I think what Marilyn is saying is
(19) before this deposition - I talked to a lot of
(20) counsel related to this deposition. One of the
(21) Reynolds' attorneys called me, only because she
(22) was a friend and because she knew I had been
(23) concerned months ago when I was deposed and didn't
(24) understand why. So, she called me as a friend and
(25) as a courtesy to let me know that this was going

February 2, 1998

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Page 368

Page 370

(1) on.
(2) Q: And did any of the Reynolds
(3) attorneys ask you the areas or tell you the areas
(4) you might be questioned about?
(5) A: No.
(6) Q: What did the attorneys tell you?
(7) MS. FORBES: Objection and instruct
(8) you not to answer him.
(9) MR. MAISTROS: Any conceivable
(10) theory?
(11) MR. CLIMACO: No. We're going
(12) tomorrow to call the judge -
(13) MR. MAISTROS: We'll stay here
(14) tomorrow and come back and answer these
(15) questions.
(16) BY MR. MAISTROS:
(17) Q: I want to know what these lawyers
(18) told you from Reynolds.
(19) MS. FORBES: All right. Same
(20) objection. It's Reynolds - to the extent you can
(21) respond to this gentleman, I don't have any
(22) problem with it. But I absolutely do have a
(23) problem with you constituting us any kind of
(24) waiver on behalf of RJ Reynolds.
(25) MR. MAISTROS: Either way. There

(1) they? They're Reynolds' lawyers.
(2) A: They are Reynolds' lawyers.
(3) Q: But they're not your lawyers, are
(4) they?
(5) A: No.
(6) Q: You don't have an attorney-client
(7) relationship with them?
(8) A: I don't have an attorney.
(9) Q: You're not an expert in this
(10) case -
(11) A: Uh-uh.
(12) Q: - on behalf of Reynolds?
(13) A: No. No. No.
(14) Q: You're not providing testimony on
(15) behalf of Reynolds in this case as an expert,
(16) correct?
(17) A: No.
(18) Q: You haven't been retained by
(19) Reynolds?
(20) A: No.
(21) Q: Tell me everything the lawyers told
(22) you.
(23) MS. FORBES: Same objection.
(24) MR. MAISTROS: You can answer.
(25) MS. FORBES: Reynolds raises and

Page 369

Page 371

(1) is no privilege.
(2) MS. FORBES: Okay. As long as it's
(3) absolutely clear and everybody agrees here that
(4) any discussions that we've had in general today
(5) you've - you're being unreasonable.
(6) MR. CLIMACO: Well, we're not
(7) agreeing to that.
(8) MR. MAISTROS: No. It is or isn't
(9) a waiver, Marilyn. We don't have to agree to
(10) that.
(11) MS. SALZMAN: This is a basis for
(12) the claim of attorney-client privilege. You don't
(13) represent him.
(14) MS. FORBES: We're here in the
(15) Fourth Circuit. It is RJ Reynolds' privilege to
(16) protect.
(17) MS. KNISELY: It's a New York and a
(18) California case. The Fourth Circuit doesn't -
(19) MR. MAISTROS: Let's get beyond
(20) this. We're not going to stipulate to anything
(21) other than the fact that these questions I'm
(22) asking are the -
(23) BY MR. MAISTROS:
(24) Q: Whatever you were told by these
(25) lawyers - these lawyers aren't your lawyers, are

(1) does not waive it's attorney-client privilege.
(2) MR. MAISTROS: Fine. What did they
(3) tell you?
(4) THE WITNESS: Should I answer this
(5) then?
(6) MR. CLIMACO: Well, we're not
(7) accepting Reynolds -
(8) MR. MAISTROS: She's just making
(9) objections. She can make any objection she
(10) wants.
(11) THE WITNESS: This one sounds
(12) serious, though.
(13) MS. FORBES: If he's not accepting
(14) it for them then -
(15) MR. MAISTROS: I'm going to move
(16) for the cost of the deposition, to stay overnight
(17) and to continue it tomorrow. We'll deal with the
(18) Court in the morning. We're going to have these
(19) questions answered, Marilyn, one way or the other.
(20) I'm not going to sit here and let you obstruct
(21) this again.
(22) MS. FORBES: I'm not.
(23) MR. MAISTROS: You're obstructing
(24) it.
(25) MS. FORBES: I disagree.

Page 372

(1) MR. CLIMACO: Well, you disagree,
(2) but you are.
(3) MS. FORBES: Let's - let's take a
(4) break.
(5) MR. CLIMACO: Mr. Shannon, let me
(6) explain something.
(7) MR. MAISTROS: No, we're not taking
(8) a break.
(9) MR. CLIMACO: Madam recorder -
(10) MR. MAISTROS: There is no
(11) attorney-client privilege that can be applied in
(12) this conversation so you are free to tell me
(13) exactly what the lawyers told you, and I don't
(14) think Ms. Forbes will instruct you otherwise.
(15) THE WITNESS: Will you instruct me
(16) otherwise?
(17) MS. FORBES: Reynolds is not
(18) waiving its privilege.
(19) MR. MAISTROS: Marilyn, you're not
(20) instructing this witness not to answer that, are
(21) you?
(22) MS. FORBES: He can use it as a
(23) proffer.
(24) MR. MAISTROS: It's not a proffer.
(25) It's a testimony under oath, Marilyn.

Page 373

(1) When you decided to pick up the
(2) phone and talk to me, you did so at your own
(3) risk. It's not privilege attached to this.
(4) MS. FORBES: We disagree.
(5) MR. MAISTROS: You disagree, but
(6) you not - you can't possibly in good faith
(7) instruct him to answer. I don't hear you saying
(8) that. So you can answer the question.
(9) THE WITNESS: I think -
(10) MS. FORBES: It doesn't constitute
(11) a waiver. Go ahead. We are not waiving our
(12) attorney-client privilege.
(13) MR. MAISTROS: I didn't ask you to.
(14) THE WITNESS: This was very
(15) innocent.
(16) MR. CLIMACO: But we're not
(17) accepting what you say. So the record is very
(18) clear, that Mr. Maistros said earlier it either is
(19) or is not a waiver. But, Mr. Shannon, that's not
(20) your decision to make. That may be the decision
(21) of a court in a subsequent proceeding.
(22) The position we are taking is
(23) this: You are no longer an employee of Reynolds.
(24) You have told me that Mrs. Forbes has told you
(25) that there is nothing you could answer - no

Page

(1) question you could not answer this - today or
(2) this evening or any time during this deposition
(3) which in any way would fall within the
(4) confidentiality agreement you signed with
(5) Reynolds.
(6) Is that what she told you?
(7) THE WITNESS: That - yes.
(8) MR. CLIMACO: Okay.
(9) BY MR. MAISTROS:
(10) Q: And will you tell me what else she,
(11) Mr. Holton, or this friend told you?
(12) MS. FORBES: Same objection.
(13) THE WITNESS: First of all, I don't
(14) remember whether Marilyn told me that or Mark told
(15) me that. But I was on the phone with both of them
(16) when I was told that I would not have to worry
(17) about my confidentiality obligations to Reynolds,
(18) because somehow that information was protected
(19) within the confines of this deposition.
(20) Okay. Now, do you still have a
(21) question?
(22) BY MR. MAISTROS:
(23) Q: What else do you recall that the
(24) attorneys told you?
(25) MS. FORBES: Same objections.

Page 3

(1) THE WITNESS: Actually, to be very
(2) honest, to be open, to be candid, they - they
(3) obviously did not seem concerned with - that I
(4) would say anything that was going to damage them.
(5) BY MR. MAISTROS:
(6) Q: Did they ask you areas that you had
(7) knowledge of?
(8) A: No. Actually they suggested - because I
(9) was asking them why I would be deposed after being
(10) gone from the company for five years. And they
(11) suggested that there had been a lot of interest in
(12) the Premier project, and that because of my
(13) involvement with the Premier project I would
(14) probably be questioned along those lines.
(15) Q: The questions that you were asked
(16) in the conversations you had with Ms. Salzman,
(17) Ms. Knisely or Mr. Haklar, there was nothing
(18) improper about that, was there?
(19) A: No, not in my opinion. No.
(20) Q: They made clear who they
(21) represented in this?
(22) A: Yes, absolutely.
(23) Q: And did they say you were free to
(24) talk to them; whether you wanted to, that was your
(25) decision?

(1) A: Yes. Yes.

(2) Q: Now, was part of your concern of
(3) first talking to them and then coming to this
(4) deposition was that you'd have to provide
(5) testimony that might hurt people that you like?

(6) MS. FORBES: Objection.

(7) THE WITNESS: Yes. That was

(8) probably my biggest concern with a deposition, was
(9) being obligated to tell under oath any kind of
(10) information that might end up hurting the company,
(11) and thereby hurting friends and people that I care
(12) about.

(13) BY MR. MAISTROS:

(14) Q: And did some of your hesitancy in
(15) answering some of the questions today arise mainly
(16) out of your desire not to hurt friends?

(17) MS. FORBES: Objection.

(18) Mischaracterizes.

(19) THE WITNESS: That's tough. I

(20) mean, some of my hesitancy was not being able to
(21) remember things. Different reasons for different
(22) hesitations.

(23) BY MR. MAISTROS:

(24) Q: Okay, Ms. Forbes asked you a
(25) series of questions related to your previous

(1) what you said?

(2) A: I said - I believe I said it was - I
(3) mean, that sounds right, yeah. That it would be
(4) irresponsible.

(5) Q: Isn't it also true that it would be
(6) irresponsible to market any cigarette as a safe
(7) cigarette?

(8) A: Yes.

(9) Q: There is no such thing as a safe
(10) cigarette, is there, in your opinion?

(11) A: That's true. In my opinion, yes.

(12) Q: And that opinion is shared by
(13) others in management at Reynolds when you worked
(14) there, wasn't it?

(15) A: Yes. I would certainly assume so, yes.

(16) Q: Is there anybody you could
(17) specifically identify that shared that opinion
(18) while you were at Reynolds?

(19) A: That shared the opinion -

(20) MS. FORBES: Objection.

(21) BY MR. MAISTROS:

(22) Q: There is no such thing as a safe
(23) cigarette.

(24) A: I can't give you specific names on that,
(25) and I don't remember having any specific

(1) testimony on addiction, satisfaction -

(2) A: Uh-huh.

(3) Q: ~ health issues.

(4) Did any of her questions change any
(5) of your opinions on your previous testimony that
(6) you gave today?

(7) A: No.

(8) MS. FORBES: Objection.

(9) BY MR. MAISTROS:

(10) Q: Do you stand by the answers you
(11) gave me to each of the questions I asked you?

(12) A: Yes.

(13) Q: And you haven't reconsidered any of
(14) the answers you gave me?

(15) A: No.

(16) Q: When - when you mentioned before
(17) that it would be irresponsible to market Premier
(18) as a safer cigarette, was it also your opinion
(19) that -

(20) A: Wait a minute. I said it would be
(21) irresponsible to market Premier as a safer
(22) cigarette?

(23) Q: As a safe cigarette?

(24) A: As a safe cigarette. Okay.

(25) Q: Is that a fair characterization of

(1) conversations on that.

(2) Q: When I originally showed you that
(3) Teague memo, Exhibit 3, at least to my appearance
(4) you expressed surprise and maybe testified as much
(5) that such thoughts would be put down in a written
(6) memo. Do you remember that?

(7) A: Yes, I was.

(8) Q: Why was that?

(9) A: Well, I think it speaks very directly. And
(10) I still have not taken the time to read this memo,
(11) only to scan it, but it speaks pretty directly
(12) to - to some issues about physiological effects
(13) of the nicotine. And I am not - certainly not
(14) accustomed to seeing that kind of language in an
(15) internally generated document.

(16) Q: Because it was understood by people
(17) at Reynolds while you were employed there that
(18) people should avoid using that terminology in
(19) handwritten documents, correct?

(20) MS. FORBES: Objection.

(21) Mischaracterizes. Overbroad.

(22) THE WITNESS: We would not use this
(23) terminology in a document. No, we would not.

(24) BY MR. MAISTROS:

(25) Q: Even if you believed it to be the

Page 380

(1) truth?

(2) MS. FORBES: Objection to the
(3) form. Mischaracterizes.(4) THE WITNESS: Even - we would find
(5) the right terminology to use.

(6) BY MR. MAISTROS:

(7) Q: Okay. It's true, is it not, that

(8) you would not use that terminology in a document

(9) even believed - even if you believed it was true,

(10) because you knew the company didn't want you using

(11) that phraseology in a document, correct?

(12) MS. FORBES: Objection.

(13) Overbroad. Vague.

(14) BY MR. MAISTROS:

(15) Q: Can you answer that question?

(16) MR. CLIMACO: Yes or no?

(17) THE WITNESS: I knew not to use

(18) this kind of terminology.

(19) BY MR. MAISTROS:

(20) Q: Because you knew the company would

(21) not approve, correct?

(22) MS. FORBES: Same objections.

(23) THE WITNESS: Yes. I knew the

(24) company wouldn't approve.

(25) MR. MAISTROS: Thank you.

(1) Q: When did you stop using butter?

(2) A: Do you mean truly butter? I'm not sure
(3) that I ever used butter. I grew up with
(4) margarine.(5) Q: How about alcohol; do you use
(6) alcohol?

(7) A: Occasionally.

(8) Q: Have you stopped using it because
(9) of your concerns about its safety?

(10) A: No.

(11) (DEPOSITION CONCLUDED AT 7:47 P.M.)
(12) (SIGNATURE WAIVED)
(13)
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Page 381

(1) MS. FORBES: All right. Some

(2) additional questions in response to Mr. Maistros
(3) questions.(4) EXAMINATION
(5) BY MS. FORBES:(6) Q: Do you have - you also stand by
(7) the responses you provided to my questions,
(8) correct?

(9) A: Yes.

(10) Q: Mr. Shannon, is butter safe?

(11) A: No.

(12) Q: Is alcohol safe?

(13) A: No.

(14) Q: You have not reviewed research -
(15) well, strike that.(16) MS. FORBES: I have no further
(17) questions.(18) MR. CLIMACO: We do have two more
(19) questions.(20) MR. MAISTROS: Let me ask one
(21) follow-up question.(22) EXAMINATION
(23) BY MR. MAISTROS:

(24) Q: Have you stopped using butter?

(25) A: Yes, I've stopped using butter.

Page

(1) STATE OF NORTH CAROLINA
(2) COUNTY OF FORSYTH

(3) REPORTER'S CERTIFICATE

(4) I, Alicia S. Clement, a Notary
(5) Public in and for the State of North Carolina, do
(6) hereby certify that there came before me on
(7) February 2nd, 1998, the person hereinbefore named,
(8) who was by me duly sworn to testify to the truth
(9) and nothing but the truth of his knowledge
(10) concerning the matters in controversy in this
(11) cause; that the witness was thereupon examined
(12) under oath, the examination reduced to typewriting
(13) under my direction, and the deposition is a true
(14) record of the testimony given by the witness.(15) I further certify that I am neither
(16) attorney or counsel for, nor related to or
(17) employed by, any attorney or counsel employed by
(18) the parties hereto or financially interested in
(19) the action.(20) IN WITNESS WHEREOF, I have hereto
(21) set my hand and affixed my official notarial seal.
(22) this the 9th day of February, 1998.(23)
(24) Alicia S. Clement, Notary Public
(25) My Commission Expires 10/15/00